NOTE: This catalog represents the most accurate information available at the time of publication. The university reserves the right, in its sole discretion, to correct or otherwise change any information without notice. A more recent version of this publication is available on the university’s Web site. The information contained in this publication is not intended to, and does not, confer any contractual rights on any individual. With respect to course offerings, the departments have attempted to anticipate which courses will be offered and by whom and when such courses will be taught. However, course offerings may be affected by changes in faculty, student demand, and funding. Although efforts have been made to indicate these uncertainties, course offerings are subject to change without notice.

William Marsh Rice University
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Mailing Address: P.O. Box 1892, Houston, Texas 77251–1892
Telephone: Campus Operator 713-348-0000
Homepage Address: www.rice.edu
2009–10 General Announcements online: www.rice.edu/catalog/

Please address all correspondence to the appropriate office or department followed by the university mailing address given above.

Admission, Catalogs, Applications  Office of Admission–MS 17
109 Lovett Hall, 713-348-7423

Business Matters  Office of the Cashier–MS 55
110 Allen Center, 713-348-4946

Career Services, Part-time  Career Services Center–MS 521
Employment off Campus  O’Connor House, 713-348-4055

Credits, Transcripts  Office of the Registrar–MS 57
116 Allen Center, 713-348-4999

Financial Aid, Scholarships, Part-time Employment on Campus  Office of Financial Aid–MS 12
116 Allen Center, 713-348-4958

Graduate Studies  Chair of the appropriate department (see pages 59–63)
or Office of Graduate and Postdoctoral Studies–MS 13

Undergraduates and Undergraduate Curricula  Office of the Dean of Undergraduates–MS 6
101 Lovett Hall, 713-348-4996

Rice University is committed to equal opportunity in education and employment. It is the policy of Rice University to attract qualified individuals of diverse backgrounds to its faculty, staff, and student body. Accordingly, Rice University does not discriminate against any individual on the basis of race, color, religion, sex, sexual orientation, gender identity, national or ethnic origin, ancestry, age, disability, or veteran status in its admissions, its educational programs, or employment. In employment, the university seeks to recruit, hire, and advance qualified candidates, including women, members of underrepresented minority groups, individuals with disabilities, and certain classes of military veterans (as defined by law).

Rice University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, GA 30033-4097; 404-679-4501) to award bachelor’s, master’s, and doctoral degrees.
MESSAGE FROM THE PRESIDENT

In some ways, Rice is like many of the other great research universities of America. We are committed, in the words of our mission statement, to “pathbreaking research, unsurpassed teaching and contribution to the betterment of our world.” Yet, we also are boldly distinctive in the way we achieve these aims. In some cases, we choose, in the words of President John F. Kennedy, to do things “not because they are easy, but because they are hard.”

While we are among the renowned research universities of the world, we also are among the smallest, yet we have never wavered from matching research ambition and accomplishment with an unusual commitment to undergraduate teaching. We have adopted a phrase that captures the essence of Rice University: “unconventional wisdom.” Unconventional describes our (sometimes quirky) uniqueness, while wisdom reflects our success in contributing to new understandings and solutions.

Since its founding in 1912, Rice continually has sought to raise its sights and embark on new endeavors. Rice’s founding president, Edgar Odell Lovett, “set no upper limit to its educational endeavor,” and that philosophy of excellence and achievement is more important than ever as Rice prepares to celebrate its centennial anniversary in 2012 and to make an even greater impact in its second century of teaching and discovery.

Rice will continue applying its expertise to the needs of a world facing increasingly complex challenges: entrenched poverty, pandemic disease, religious intolerance, terrorism, fuel and water shortages and environmental degradation, to name just a few. It is also a world of possibility: environmental sustainability, renewable fuels, breakthroughs in health care and wellness, more peace and prosperity in more places, and greater understanding among the diverse peoples who inhabit our planet. The blueprint we have developed to prepare Rice to help solve those problems and realize those possibilities is the Vision for the Second Century. This 10-point strategic plan will expand Rice’s reach in critical areas of research and public service within its home city and throughout the country and the world. I encourage you to learn more about it at www.rice.edu/vision.

At each stage in our history, we have taken another step in the direction of realizing President Lovett’s original vision. Much of our success depends on the scholars and researchers who transform our classrooms and laboratories into catalysts for ideas and inventions. Much also depends on students of ambitious vision who are willing and able to take their Rice education to even greater heights. We aim to transform extraordinary students into extraordinary leaders.

We are pleased that you have chosen to become a part of this dynamic and resourceful university as it embarks on its second century of excellence and achievement. Welcome to Rice.

David W. Leebron  
President  
Rice University
FALL 2009

Monday, August 3  Deadline: Tuition due for entering freshmen

Monday, August 10  Deadline: Tuition due for returning undergraduate students

Sunday, August 16
(through Friday, August 21) Orientation Week for new students

Monday, August 17  Deadline: Tuition due for graduate students

Monday, August 24  First day of classes

Credit balance checks available to students

Friday, August 28  Deadline: Last day for instructors to submit final grades to resolve “Incomplete” (INC) grades for courses taken in spring and summer 2009

Friday, September 4  Deadline: Last day to complete late registration
   Deadline: Last day to add courses (please go to ESTHER to add or drop courses)
   Deadline: List day to adjust variable credit for courses online via ESTHER
   Deadline: Last day to designate a credit course as “Audit” or vice versa
   Deadline: Last day to convert a “Pass/Fail” to an earned letter grade for courses taken in spring 2009
   Deadline: Last day to withdraw with a 100% refund of tuition and fees
   Deadline: Last day to drop to part time with a refund for tuition

Monday, September 7  Labor Day (holiday—no scheduled classes)

Friday, September 11  Deadline: Last day to withdraw with a 70% refund of tuition

Friday, September 18  Deadline: Last day anticipated aid for fall shows as a credit on student accounts
   Deadline: Last day to withdraw with a 60% refund of tuition

Friday, September 25  Deadline: Last day to withdraw with a 50% refund of tuition

Friday, October 2  Deadline: Last day to withdraw with a 40% refund of tuition

Friday, October 9  Deadline: Last day to drop courses (please go to ESTHER to drop courses)
   Deadline: Last day for instructors to submit mid-semester grades for first-year undergraduate students online via ESTHER
   Deadline: College course plans due to Dean of Undergraduates office for spring 2010
   Deadline: Last day to withdraw with a 30% refund of tuition
Monday, October 12
(through Tuesday, October 13) ...................... **Midterm Recess (no scheduled classes)**

Friday, October 16 ...................................... **Deadline:** Last day to withdraw with a **20% refund of tuition**

Friday, October 23 ...................................... **Deadline:** Last day to withdraw with a **10% refund of tuition**

Friday, October 30 ...................................... **Deadline:** Last day to file an application for January 2010 degree conferral with the Office of the Registrar (undergraduate and graduate students)

**Deadline:** Last day to file an application for a May 2010 degree conferral with the Office of the Registrar (undergraduate students only)

**Deadline:** Last day to file the following in the Office of Graduate and Postdoctoral Studies for January 2010 degree conferral:
- Thesis master’s candidacy petitions
- Certification of nonthesis master’s
- Form for automatic master’s
- PhD candidacy petitions

**Deadline:** Last day to designate a course as “Pass/Fail”

Monday, November 9
(through Friday, November 13) ...................... Spring 2010 registration begins for currently enrolled undergraduate, graduate, and 5th year students

Friday, November 13 ...................................... **Deadline:** Last day to complete financial aid application for fall 2009

**Deadline:** Last day to register for spring 2010 by 5:00 p.m. without late registration fee

Wednesday, November 25 .............................. **Deadline:** Last day to complete loan applications for fall 2009

Thursday, November 26
(through Friday, November 27) ...................... **Thanksgiving Recess (holiday—no scheduled classes)**

Friday, December 4 ...................................... **Last day of classes**

**Deadline:** (for fall 2009 matriculants only) Last day to drop courses—students must go to the Office of the Registrar by **5:00 p.m.**

**Deadline:** For a January 2010 conferral of degree, students must submit theses to the Office of Graduate and Postdoctoral Studies by **12:00 noon.**

Saturday, December 5
(through Tuesday, December 8) ..................... **Study Days—No Exams**

Wednesday, December 9
(through Wednesday, December 16) ............. **Final examinations for undergraduate courses**

Friday, December 25 ...................................... **Deadline:** Last day for instructors to submit final grades online via ESTHER
Spring 2010

Tuesday, January 5..........................................................**Deadline:** Tuition due for all students

Monday, January 11..........................................................**First day of classes**

Credit balance checks available to students

Friday, January 15 ..........................................................**Deadline:** Last day to resolve grades of “Other” (OT) from fall 2009

Monday, January 18..........................................................**Martin Luther King Jr. Day (holiday–no scheduled classes)**

Friday, January 22..........................................................**Deadline:** Last day to withdraw with a **100% refund of tuition and fees**

**Deadline:** Last day to drop to part time status with a **100% refund of tuition**

**Deadline:** Last day to complete late registration

**Deadline:** Last day to add courses online via ESTHER

**Deadline:** Last day to adjust variable credit for courses online via ESTHER

**Deadline:** Last day to designate a course credit as “Audit” or vice versa

**Deadline:** Last day to convert a “Pass/Fail” to an earned letter grade for courses taken in fall 2009

**Deadline:** Last day to drop to part-time status and receive a refund for tuition

Friday, January 29..........................................................**Deadline:** Last day to withdraw with a **70% refund of tuition**

Friday, February 5..........................................................**Deadline:** Last day to withdraw with a **60% refund of tuition**

**Deadline:** Last day anticipated aid for spring shows as credit on student accounts

Friday, February 12..........................................................**Deadline:** Last day for instructors to submit final grades to resolve “Incompletes” (INC) grades for courses taken in fall 2009

**Deadline:** Last day to withdraw with a **50% refund of tuition**

Friday, February 19..........................................................**Deadline:** Last day to withdraw with a **40% refund of tuition**

Friday, February 26..........................................................**Deadline:** Last day to drop courses online via ESTHER (full term courses)

**Deadline:** Last day for instructors to submit mid-semester grades for first-year undergraduate students online via ESTHER

**Deadline:** College course plans due to Dean of Undergraduates office for fall 2010

**Deadline:** Last day to file an application for a May degree conferral with the Office of the Registrar (graduate students only)
Deadline: Last day to file the following in the Office of Graduate and Postdoctoral Studies for May degree conferral:

- Thesis master’s candidacy petitions
- Certification of non-thesis master’s
- Form for automatic master’s
- PhD candidacy petitions

Deadline: Last day to withdraw with a 30% refund of tuition

Saturday, February 27
(through Sunday, March 7) .................................Spring Break (no scheduled classes)

Friday, March 12 ..............................................Deadline: Last day to withdraw with a 20% refund of tuition

Friday, March 19 ..............................................Deadline: Last day to withdraw with a 10% refund of tuition

Deadline: Last day to designate a course as “Pass/Fail”

Deadline: Last day for sophomores to file a declaration of major with the Office of the Registrar

Thursday, April 1
(through Friday, April 2) .................................Midterm Recess (no scheduled classes)

Friday, April 2 ..............................................Deadline: Last day to complete financial aid applications for spring 2010

Monday, April 12 ..............................................Deadline: Last day to complete loan applications for spring 2010

Deadline: Last day to register for fall 2010 without a late registration fee

Monday, April 12
(through Friday, April 16) .................................Fall 2010 registration begins for currently enrolled undergraduate, graduate, and 5th year students

Thursday, April 15 ..............................................Deadline: Last day for returning students to submit financial aid applications for 2010–11

Friday, April 23 ..............................................Last day of classes

Deadline: For spring 2010 undergraduate matriculants only: Last day to drop courses, students must go the Office of the Registrar by 5:00 p.m.

Deadline: For a May 2010 conferral of degree, students must submit theses to the Office of Graduate and Postdoctoral Studies by 12:00 noon

Saturday, April 24
(through Tuesday, April 27) .........................Study Days—No Exams

Wednesday, April 28
(through Wednesday, May 5) .........................Final examinations for all undergraduate students

Friday, May 7 ..............................................Deadline: Last day for instructors to submit final grades for all degree candidates online via ESTHER by 5:00 p.m.

Monday, May 10 ..............................................Deadline: Last day for May 2010 degree candidates to convert a “pass/fail” to an earned letter grade for spring 2010 courses, by 12:00 noon
Saturday, May 15 ........................................ Ninety-Seventh Commencement

Wednesday, May 19 ........................................ Deadline: Last day for instructors to submit final grades for all nongraduating students online via ESTHER by 5:00 p.m.

Friday, May 21 ........................................ Deadline: Last day for graduate students to submit financial aid applications for 2009–10

Friday, June 4 ........................................ Deadline: Last day to resolve grades of “Other” (OT) from spring 2010

**Summer 2010**

**Early Session (May 18–June 4)**

Monday, March 15 ........................................ Summer term online registration begins for Rice undergraduate students (esther.rice.edu)
Summer term financial aid information available

Friday, April 23 ........................................ Deadline for Visiting and Class III Students: For application to Early Summer Session by 12:00 noon

Tuesday, May 11 ........................................ Early Summer Session admission status e-mailed to visiting and Class III students

Monday, May 17 ........................................ Registration Period for Visiting and Class III Students: 9:00 a.m.–1:00 p.m. Registrations received after that time will be assessed a late registration fee
Deadline: For Rice undergraduate students to register online for Early Summer Session without a late registration fee
Deadline: For adding courses by 12:00 noon for Rice undergraduates who have already registered
Deadline: For final tuition payment for all students

Tuesday, May 18 ........................................ First day of classes–Early Summer Session

Monday, May 24 ........................................ Deadline for Visiting and Class III Students: To submit official transcripts for Early Summer Session
Deadline: For dropping courses and withdrawing from Early Summer Session without academic penalty by 12:00 noon
Deadline: For designating “Pass/Fail” option for Early Summer Session
Deadline: For refunds and submitting refund requests for Early Summer Session

Monday, May 31 ........................................ Memorial Day (holiday–no scheduled classes)

Friday, June 4 ........................................ Last day of classes–Early Summer Session

Tuesday, June 8 ........................................ Deadline: For completion of all Early Summer Session course work, including final examinations

Friday, June 11 ........................................ Deadline: For instructors to submit grades online

Monday, June 14 ........................................ Grades for Early Summer Session available to students online (esther.rice.edu)
Summer 2010

General Session (June 7–July 30)

Monday, March 15 ........................................... Summer term online registration begins for Rice undergraduate students (esther.rice.edu)
Summer term financial aid information available

Friday, May 7 .................................................... Deadline for Visiting and Class III Students: For application to the General Summer Session by 12:00 noon

Thursday, May 20 ............................................. General Summer Session admission status e-mailed to visiting and Class III students

Monday, May 31 .............................................. Memorial Day (holiday—no scheduled classes)

Friday, June 4 .................................................. Deadline: For final tuition payment for all students
Registration period for visiting and Class III students: 9:00 a.m.–1:00 p.m. Registrations from visiting and Class III students received after that time will be assessed a late registration fee

Monday, June 7 ............................................... First day of classes—General Summer Session

Friday, June 11 .................................................. Deadline: For adding courses for the General Summer Session by 12:00 noon
Deadline: For Rice undergraduate students to register online for General Summer Session without a late registration fee

Monday, June 14 ............................................. Deadline: For dropping courses and withdrawing from General Summer Session without academic penalty (no refunds after June 25) by 12:00 noon*
Deadline: For designating “Pass/Fail” option for General Summer Session

Monday, June 21 ............................................. Deadline for Visiting and Class III Students: To submit official transcripts for General Summer Session
Deadline: For refunds and submitting refund requests for General Summer Session

Monday, July 5 ................................................ Independence Day observed (holiday—no scheduled classes)

Friday, July 30 .................................................. Last day of classes—General Summer Session

Tuesday, August 3 .......................................... Deadline: For completion of all General Summer Session course work, including final examinations

Friday, August 6 ............................................. Deadline: For instructors to submit General Summer Session grades online

Monday, August 9 ........................................... Grades for Summer term available to students online (esther.rice.edu)

* For courses starting after the first week of the General Session, the drop deadline is one week from the first day your class meets.
2010 Full Summer Session
(Graduate Students Only)

Monday, March 15 .......................................................... Full Summer Session registration for Rice graduate students begins online (esther.rice.edu)
Financial aid information available for Summer Session

Tuesday, May 11 .......................................................... First day of classes—Full Summer Session

Friday, May 14 .......................................................... Deadline: For dropping course without academic penalty for the Full Summer Session

Monday, May 24 .......................................................... Memorial Day (holiday—no scheduled classes)

Monday, July 5 .......................................................... Independence Day observed (holiday—no scheduled classes)

Friday, August 20 .......................................................... Last day of classes—Full Summer Session

Friday, August 27 .......................................................... Deadline: For instructors to submit grades for Full Summer Session online

Tuesday, August 31 .......................................................... Grades for Full Summer Session available to students online (esther.rice.edu). If a grade is not posted, please contact the instructor.
**STUDENT RESPONSIBILITY**

The university expects all Rice students to exercise personal responsibility over their actions. Their behavior should reflect a respect for the law and for their contractual obligations, a consideration for the rights of others, and shared standards of considerate and ethical behavior.

Students are responsible for knowing and following all information, policies, and procedures listed in this *General Announcements*. Questions should be directed to the appropriate office or administrator.

Rice encourages self-discipline, recognizing that effective student government, including judicial processes, and the integrity of the honor system depend on the willingness of all students to meet community standards of conduct.

The university, however, reserves the right to insist on the withdrawal of any student whose conduct it judges to be clearly detrimental to the best interests of either the student or the university. The appropriate authorities take such action only after careful consideration.

No individual or group may use the name of the university or one of its colleges without prior approval of the university or the college.

**THE HONOR SYSTEM**

The honor system, one of the oldest and proudest traditions at Rice, is administered by the Honor Council, whose student members are elected each year by the student body. Adopted by a student vote in 1916, the honor system has remained essentially the same since that time but for changes in the procedures and membership of the Honor Council.

Students take all written examinations and complete any specifically designated assignments under the honor system. By committing themselves to the honor system, all students accept responsibility for assuring the integrity of the examinations and assignments conducted under it. The Honor Council is responsible for investigating reported violations and for conducting a hearing when the facts warrant. The assistant dean of Student Judicial Programs, who reviews the results of the investigations and hearings, considers the council's recommendations when issuing penalties.

The Honor Council conducts an ongoing program to acquaint new students and faculty with the honor system. The Honor Code and other related information and resources are located at the homepage of the Honor Council: www.honor.rice.edu.

**THE CODE OF STUDENT CONDUCT**

With regard to nonacademic disciplinary matters, the assistant dean of Student Judicial Programs and the University Court—a court of student peers—enforce the Code of Student Conduct that governs the administration of student order and discipline. The Code of Student Conduct applies to all undergraduate students, transfer students, graduate students, and professional students registered at Rice University, as well as to visiting students, Class III students, second degree students, and auditors from the time they arrive on campus for orientation until they have completed their studies or degrees and physically left campus. Organizations also are subject to this code. All enrolled students also are subject to Rice University policies, rules, and regulations. The assistant dean of Student Judicial Programs oversees the judicial system under the auspices of the Office of the Dean of Undergraduates, who has general authority over the student disciplinary system. The Code of Student Conduct and other related information and resources are located at: students.rice.edu/students/Conduct.asp.
Faculty Grading Guidelines

The Committee on Examinations and Standing has drawn up the following guidelines on grading. Additional information is available in Undergraduate Students section, pages 18–19.

- The evaluation of the student’s performance in a course and a decision on the appropriate grade is the responsibility of the designated instructor or instructors in the course.

- No student should be given an extension of time or opportunities to improve a grade that are not available to all members of the class, except for verified illness or justified absence from campus. No course assignments may be due between the last day of classes and the first day of the final examination period.

- Students in independent study courses are not to be allowed an extension beyond the time when grades are due. Faculty are to submit grades at the end of the semester for such students based on work completed during the semester. The instructor directing the independent study assumes responsibility with the student for ensuring that the work undertaken is appropriate to the span of a semester and for determining the degree credit to be received.

- The basis for grading and the expectations on all written assignments or tests should be clearly explained to the class in advance, preferably in writing at the beginning of the semester. The instructor should explain clearly which assignments or homework are covered by the honor system and which are not. To prevent allegations of plagiarism on written assignments, students should be warned that all direct and indirect quotations from other sources should be properly acknowledged. The instructor should explain the extent to which the student’s paper is expected to be independent of the references and clearly distinguishable from them.

- Instructors should be willing to give any student an explanation of his or her grade as consistent with the grading for the rest of the class. For this reason, the committee urges the faculty to preserve all examinations and written material not returned to students, as well as grade records, for at least the following semester so that students may, if they wish, review with their instructor the basis for the grade received.

- Instructors may not change a semester grade after the grade has been submitted to the Office of the Registrar, except when there is a clerical error in calculating the grade. This is a long-standing university rule of which the faculty are reminded by the Office of the Registrar at the end of each semester. It is designed, in part, to protect the faculty from student pressure for grade changes. All other grade changes, including retroactive change to withdrawal, incomplete, or other, must be approved by the Committee on Examinations and Standing on the basis of a written petition from the student and on information from the instructor.

- There is no university requirement that a final examination be given in a course. It is university policy that final examinations that cover more than the material since the last examination, that are the only exam in the course, or that are comprehensive of the entire course may be given only during the final examination period. Such examinations may not, for example, be labeled “tests” and administered during the last week of classes. Final examinations normally are of three-hour duration. Faculty who, under exceptional circumstances, wish to give longer examinations may do so only if the exam is scheduled as take-home. Under no circumstances may
final exams exceed five hours.

- First-year students receive mid-semester grades around the eighth week of the fall and spring semesters so that they can, if advisable, seek academic assistance or drop a class for which they may not be prepared. Faculty who teach first-year students in any of their classes will be asked to submit grades of standing for these students during the seventh week of the semester and should schedule the grading of tests, quizzes, or homework assignments accordingly. These grades are not recorded on the student’s transcript nor calculated in the grade point average, but they are important indicators for students and their faculty advisors.

- Departments using teaching associates, adjunct professors, or visiting faculty of any kind should make sure these teachers are familiar with Rice grading procedures. A regular faculty member who is well-versed in the grading guidelines should be assigned to assist such instructors.

The chair of the Committee on Examinations and Standing or the Office of the Dean of Undergraduates will be glad to advise any faculty member faced with exceptional circumstances that may justify special consideration. Students may petition the committee concerning the application of these guidelines. Suspected or possible violations of the honor system should be submitted to the Honor Council.

### STUDENT HEALTH, COUNSELING SERVICES, AND THE WELLNESS CENTER

#### Student Health Fee

By paying an annual student health service fee, all students gain access to the Student Health Services, Rice Counseling Center, and the Wellness Center. Detailed information on the care and services each provide is available from these centers.

#### Student Health Services

Student Health Services, an outpatient medical clinic, is located in the Morton L. Rich Health and Wellness Center. The clinic is staffed by primary care physicians, nurses, and ancillary support staff. More information can be found at www.rice.edu/health.

Clinic hours are from 8:00 a.m. to 5:00 p.m., Monday through Friday, during fall and spring semesters. For after-hours and weekend medical care, students may choose among a number of local clinics and hospitals. Students must pay for all medical care outside the clinic’s purview, including blood tests, x-rays, and outside physician consultations. Should such medical care be necessary, students are urged to review their insurance coverage and pick the best available option.

Care at the clinic is arranged through appointment at 713-348-4966. In serious emergencies, students should call the Rice University Police Department at 713-348-6000.

The clinic is open full time from the first day of Orientation Week until the day before commencement. It is closed during Thanksgiving and the winter break. The clinic also is open for reduced hours during the summer months.

The Student Health Service provides the following:

- Medical care for illness and injury with referrals to specialists when needed
• Maintenance of health records for all students
• Immunizations and other preventive services
• General information for all students
• Contraceptive counseling and routine Pap smears
• Allergy shots (students must provide serum after a specialist allergy workup)
• Physical examinations

Confidentiality—The Student Health Service physician–patient relationship is a confidential one. Medical records will be released only on receipt of written authorization from the student or as required by law or when the patient poses a significant risk to herself or himself or another person.

Health Insurance—All Rice students must maintain health insurance and are required to enter details of their health insurance online at www.studenthealthinsurance.rice.edu by August 15. Failure to do so will result in automatic billing for the Rice Student Health Insurance Plan. Students may purchase insurance through the university, as described online. Dependent coverage also is available. For questions about the Rice student health plan, students should contact the Assistant Dean for Student Health Programs at studentinsurance@rice.edu. Rice’s group coverage for 2009–10 is effective at 12:01 a.m. on August 15, 2009, and will terminate at 12:01 a.m. on August 15, 2010.

Rice Counseling Center
Rice Counseling Center, in 303A Lovett Hall, addresses students’ psychological needs with various programs and services. The center is open year-round except for scheduled holidays and occasional all-day staff retreats. Office hours for counseling and consultations are 8:30 AM to noon and 1:00 PM to 5:00 PM, Monday through Friday. Students can make appointments by calling 713-348-4867 or by visiting the center. There are no costs for Counseling Center services.

Typically, most students who use the counseling services bring with them very common concerns: roommate problems, breakup of a relationship, academic and/or interpersonal anxiety, family problems, difficulties adjusting to Rice, or confusion about personal goals, values, and identity. Counselors are equipped to handle a variety of issues, including substance abuse, eating disorders, sexual assault/abuse/date violence, depression, and the coming-out process. Rice Counseling Center offers both individual and group counseling, as well as educational workshops and programs.

When students need prolonged or specialized counseling or treatment, counselors refer them to an outside provider. The students, or their health insurance, must pick up these costs. All students who have paid the Health Service Fee are eligible for initial assessment sessions, consultations, crisis intervention, and educational programming. Individual or group counseling may also be available, if appropriate.

Students who have worked with a mental health professional prior to enrolling at Rice are encouraged to make contact with the Rice Counseling Center prior to coming to Rice. This will allow the student to make arrangements for a continued care plan. This plan may involve working with the Rice Counseling Center or working with the center to find a suitable off-campus provider.

The Rice Counseling Center provides the following services:
• Initial assessment
• Short-term individual and couples counseling
• Group therapy and support groups
• Medication consultations with the center’s consulting psychiatrist for students in counseling at the center
• Other consultations (e.g., how to make a referral or how to respond to a friend in distress)
• Educational programming (e.g., various presentations on mental health issues)
• Crisis intervention on a walk-in emergency basis during regular office hours; students may call 713-348-4867 for assistance with emergencies after hours or on weekends

**Students with Disabilities**—Because students who have physical limitations may find it difficult to reach the Rice Counseling Center’s third floor location in Lovett Hall, staff will arrange to see those students in a more accessible location on campus. Students should call the center to make these arrangements.

**Confidentiality**—Counseling services are confidential; information about a student is not released without that student’s written permission. By state law, confidentiality does not extend to circumstances where (1) there is risk of imminent harm to the student or others; (2) the counselor has reason to believe that a child or an elderly or handicapped person is, or is in danger of, being abused or neglected; (3) a court order is issued to release information; (4) the student is involved in a criminal lawsuit; or (5) the counselor suspects that the student has been the victim of sexual exploitation by a former health provider during the course of treatment with that provider.

**The Wellness Center**
The Wellness Center is located in the Barbara and David Gibbs Recreation and Wellness Center. The center works with Student Health Services and the Rice Counseling Center to encourage and reinforce behaviors in students that promote a higher quality of health and well-being. Key target areas include prevention of substance abuse and misuse, unplanned pregnancies and sexually transmitted diseases, sexual assault and harassment, promotion of good nutrition and a healthy body image, cold and flu prevention, management of time and stress, and improvement in the overall well-being of students. The Wellness Center offers educational material and programs, Web-based information, audio-visual and print materials, many free health supplies, and free confidential consultations and referrals for students. Nutritional counseling, message therapy, and acupuncture also are available in the center. There are fees for some services. Call 713-348-5194 for an appointment or visit us online at wellness.rice.edu.

**DISABILITY SUPPORT SERVICES**
Located on the first floor of Allen Center, Disability Support Services coordinates campus services for individuals with documented disabilities. For academic accommodations, adaptive equipment, or disability-related housing needs, Disability Support Services is the campus resource for all students with disabilities. Information is maintained on scholarships, internships, and other programs specific to students with disabilities. For more information, see the Disability Support Services Web site at www.dss.rice.edu. Students can schedule an appointment with the director of Disability Support Services by calling 713-348-5841.

**Section 504/ADA Coordinator**—The director of affirmative action serves as the Section 504/ADA coordinator at Rice University. Concerns or complaints
relative to disability issues should be directed to the Office of Affirmative Action, 224 Herman Brown Hall, 713-348-4930.

**NOTIFICATION OF RIGHTS UNDER THE FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT**

The Family Educational Rights and Privacy Act (FERPA) is a federal law designed to protect the privacy of, and limit access to, student education records. The law affords students the following rights with respect to their education records: (1) the right to inspect and review the student's education records within 45 days from the day Rice University receives a request for access; (2) the right to seek amendment of the student's education records to ensure that they are not inaccurate, misleading, or otherwise in violation of the student's privacy rights under FERPA; (3) the right to provide written consent to disclosures of personally identifiable information (as defined by law) contained in the student's education records, except to the extent FERPA authorizes disclosure without consent; and (4) the right to file a complaint with the U.S. Department of Education concerning alleged failures by Rice University to comply with the requirements of FERPA. The name and address of the federal office that administers FERPA is: Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Ave. S.W., Washington, DC 20202-5901.

A student should make written request to any offices that maintain student education records, identifying the record(s) a student wishes to inspect. Though not exhaustive, as a guide for students, this is a list of offices that maintain student education records: Admission Office, Office of the Registrar, Office of the Assistant Dean of Student Judicial Programs, Office of the Dean of Undergraduates, Office of Graduate and Postdoctoral Studies, Student Financial Services, Career Services, Office of Student Activities, Office of Academic Advising, Office of International Students and Scholars, Cashier's Office, and departmental offices. The appropriate Rice official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the Rice official to whom the request is submitted, that Rice official will advise the student of the correct official to whom the request should be addressed.

Any questions, problems, or written requests for amendment of records should be submitted to the Dean of Undergraduates, the Dean of Graduate and Postdoctoral Studies, or the Office of the Registrar. A student who wishes to ask Rice University to amend a record should clearly identify the part of the record the student wants changed and specify why it should be changed. If Rice University decides not to amend the record as requested, Rice University will notify the student in writing of the decision and of the student's right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

Rice University may disclose personally identifiable information to school officials with legitimate educational interests who require this information in order to perform instructional, supervisory, advisory, administrative, or other duties for Rice University. School officials include faculty, staff, contractors, auditors, attorneys, collection agents, Trustees, or students serving on official committees, such as disciplinary or grievance committees, or assisting another school official. A school official has a legitimate educational interest if the official needs to review an educational record in order to fulfill his or her professional responsibility for Rice University.
As permitted by FERPA, Rice University reserves the right to publish directory information without prior consent. Directory information consists of name, local and permanent address, telephone and mobile numbers and campus electronic mail address, instant messenger address, date and place of birth, major and minor fields of study, dates of attendance, degrees and awards received, participation in officially recognized activities and sports, weight and height of athletic team members, the most recent previous education agency or institution, and photographic image. Students who prefer this information not be released must notify the Office of the Registrar in writing, preferably before the end of the second week of fall classes; thereafter, the university will not release such information until a contrary notice or consent is received from the student.

Information for Undergraduate Students
INTRODUCTION

The undergraduate experience at Rice is one of intense personal interactions. The close sense of community created by individual placement in residential colleges is extended to warm intellectual and personal relationships with members of the Rice faculty. “Behind the hedges,” the beautifully designed, spacious campus is small enough to encourage a sense of belonging even as students engage with the lively cultural currents of one of the country’s largest cities.

The academic philosophy at Rice is to offer students beginning their college studies both a grounding in the broad fields of general knowledge and the chance to concentrate on very specific academic and research interests. By completing the required distribution courses, all students gain an understanding of the literature, arts, and philosophy essential to any civilization, a broad historical introduction to thought about human society, and a basic familiarity with the scientific principles underlying physics, chemistry, and mathematics. Building on this firm foundation, students then concentrate on studies in their major areas of interest.

Rice University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (SACS), the recognized regional accrediting body in the 11 U.S. Southern states.

Rice grants two undergraduate degrees, the Bachelor of Arts (BA) and the Bachelor of Science (BS), in a range of majors. The majority of undergraduates earn the BA degree. The BS degree is offered in some science fields and in various fields of engineering accredited by the Accreditation Board for Engineering and Technology (ABET). Undergraduates may major in any of the numerous fields provided by the various schools of architecture, humanities, music, social sciences, science, and engineering. To accommodate the full range of individual student interests, specific interdepartmental majors also are available, as are selectively approved area majors. In certain departments, students also have the option of overlapping the upper-level course work of their undergraduate degree with those basic requirements necessary to earn a higher degree in the field, considerably reducing the time required to complete their graduate studies. The Shepherd School of Music offers a joint degree in music (BMus/MMus) that may be completed with a fifth year of study.

Through Rice’s Education Certification Program, students interested in teaching in secondary schools may complete a program of teacher training, leading to certification in the state of Texas, together with the BA degree. Students interested in satisfying the requirements for admission to medical, dental, or law school should consult with the Office of Academic Advising for completing these programs in conjunction with the various majors.

GRADUATION REQUIREMENTS

DEGREE REQUIREMENTS FOR ALL BACHELOR’S DEGREES

Students are responsible for making certain that their plan of study meets all degree and major requirements. To graduate from Rice University, all students must:

- Be registered at Rice full time for at least four full fall and/or spring semesters
- Complete the requirements of at least one major degree program
• Complete at least 120 semester hours (some degree programs require more than 120 hours)
• Complete at least 60 semester hours at Rice University
• Complete at least 48 hours of all degree work in upper-level courses (at the 300 level or higher)
• Complete more than half of the upper-level courses in degree work at Rice
• Complete more than half of the upper-level courses in their major work at Rice (certain departments may specify a higher proportion)
• Complete all Rice courses satisfying degree requirements with a cumulative grade point average of at least 1.67 or higher
• Complete all Rice courses that satisfy major requirements (as designated by the department) with a cumulative grade point average of at least 2.00 or higher. This same rule applies to minors.
• Satisfy the composition requirement (see below)
• Satisfy the Lifetime Physical Activity Program (LPAP) requirement (see below)
• Complete courses to satisfy the distribution requirements (see below)
• Otherwise be a student in good academic and disciplinary standing and not under investigation

To satisfy the composition requirement, students must either pass the composition examination or successfully complete COMM 103 Academic Writing and Argumentation, a one-semester course carrying three hours degree credit.

To satisfy the LPAP requirement, students must complete two different noncredit courses in LPAP. Students with disabilities may make special arrangements to satisfy this requirement.

In order to earn a second degree, students must fulfill the requirements outlined on page 13.

Distribution Requirements

Each student is required to complete at least 12 semester hours of designated distribution courses in each of Groups I, II, and III. The 12 hours in each group must include courses in at least two departments in that group. Divisional or interdisciplinary designations, e.g., HUMA or NSCI, count as departments for this purpose. Interdivisional courses approved for distribution credit may count toward the 12 semester hours in any relevant group; however, students may not count any one such course toward the 12 required hours in more than one group and may count no more than one such course toward the 12 required hours in any one group.

Students must complete the distribution requirements in each group by taking courses that are designated as a distribution course at the time of course registration, as published in that semester's Course Offerings. Courses taken outside of Rice and transferred in can be used to satisfy distribution requirements, assuming they are on the list of approved and designated distribution courses at the time they were taken. Completed courses taken prior to matriculation are subject to the list of designated distribution courses at the time of matriculation.

The distribution system presupposes that every Rice student should receive a broad education along with training in an academic specialty. This goal is achieved by courses that are broad based, accessible to nonmajors, and representative of the knowledge, intellectual skills, and habits of thought that are most characteristic of a discipline or of inquiry across disciplines.
Group I—These courses have one or more of the following goals: They develop students’ critical and aesthetic understanding of texts and the arts; they lead students to the analytical examination of ideas and values; they introduce students to the variety of approaches and methods with which different disciplines approach intellectual problems; and they engage students with works of culture that have intellectual importance by virtue of the ideas they express, their historical influence, their mode of expression, or their critical engagement with established cultural assumptions and traditions.

Group II—Three types of courses fulfill this requirement. The first are introductory courses that address the problems, methodologies, and substance of different disciplines in the social sciences. The second are departmental courses that draw on at least two or more disciplines in the social sciences or that cover topics of central importance to a social science discipline. The third are interdisciplinary courses team-taught by faculty from two or more disciplines.

Group III—These courses provide explicit exposure to the scientific method or to theorem development, develop analytical thinking skills and emphasize quantitative analysis, and expose students to subject matter in the various disciplines of science and engineering.

Bachelor of Arts
The specific requirements of individual majors leading to the Bachelor of Arts degree vary widely. No department may specify more than 80 semester hours (required courses, prerequisites, and related laboratories included) for the Bachelor of Arts.

In addition to meeting the degree requirements for all bachelor’s degrees, to qualify for the Bachelor of Arts, students in all fields except architecture must complete at least 60 hours in course work outside the major, and students in architecture must complete at least 36 hours in course work outside the major.

Bachelor of Science in the Wiess School of Natural Sciences
The Bachelor of Science degree is offered in astrophysics, biochemistry and cell biology, chemistry, chemical physics, earth science, ecology and evolutionary biology, and physics. The specific degree requirements vary from field to field and differ from those of the Bachelor of Arts in that there are greater technical requirements. No department may specify more than 80 semester hours (required courses, prerequisites, and related laboratories included) for the Bachelor of Science. To earn a BS degree in one of these fields, students must complete at least 60 hours in course work outside the major.

Bachelor of Science Degrees in Engineering:
Bachelor of Science in Chemical Engineering (BSChE), Civil Engineering (BSCE), Computer Science (BSCS), Electrical Engineering (BSEE), Materials Science (BSMS), Mechanical Engineering (BSME), and Bioengineering (BSB)

The Bachelor of Science degree in a given engineering field is distinct from the Bachelor of Arts degree in that it must meet greater technical requirements. In establishing a departmental major for the degree of bachelor of science in civil engineering, electrical engineering, materials science, and mechanical engineering, the department may specify no more than 92 semester hours (required courses, prerequisites, and related laboratories included). In
establishing the departmental major for the BS in chemical engineering, the
department may specify no more than 100 semester hours (required courses,
prerequisites, and related laboratories included). The bioengineering department
specifies 94 semester hours for the BS degree (required courses, prerequisites,
and related laboratories included). To earn a BS degree, students must meet
the following minimum semester hour requirements in course work:

- All majors except chemical engineering, mechanical engineering, and
  computer science—a total of at least 134 hours
- Chemical engineering majors—a total of at least 132 hours, depending on
  area, up to 137 hours
- Mechanical engineering—132 hours total
- Computer science majors—a total of at least 128 hours

**Other Bachelor’s Degrees**

The professional Bachelor of Architecture (BArch) degree requires a fifth
year of study and a one-year preceptorship. The Bachelor of Music (BMus)
degree requires advanced courses in aural skills in addition to the core music
curriculum.

**Undergraduate Majors**

To receive a bachelor’s degree, a student must complete the requirements
for at least one major. Rice offers majors in many fields. Within some majors,
students have the choice of a particular area of concentration. Students also
may choose to fulfill the requirements for more than one major; such majors
do not necessarily need to be in related fields. More detailed information on
the departmental majors described below may be found in the Undergraduate
Degree chart (pages 6–9), in the section “Departments and Interdisciplinary
Programs” or by contacting the department. The process for declaring majors
appears in the section Declaring Departmental Majors on page 12.

**School of Architecture**—Students admitted to the university as architecture
majors must first complete four years of the BA program (architecture major)
before applying to the BArch program in their senior year. If admitted, they
are assigned a preceptorship with an architectural firm for a one-year period,
after which they return to Rice to complete the BArch degree program.

**George R. Brown School of Engineering**—Rice offers majors in bioengineering,
chemical engineering, civil engineering, computational and applied mathematics,
computer science, electrical engineering, environmental engineering sciences,
mechanical engineering, materials science and engineering, and statistics. These
programs lead to either the BA or the BS degree and may qualify students for
further graduate study.

**School of Humanities**—Students may declare majors in art history, classical
studies, English, French studies, German studies, Hispanic studies, history,
kinesiology, linguistics, philosophy, religious studies, visual and dramatic
arts, and sport management. Interdisciplinary majors are available in Ancient
Mediterranean Civilizations, Asian Studies, Medieval Studies, and the Study
of Women, Gender, and Sexuality, while an interdepartmental major in policy
studies combines courses from the School of Humanities and the School of
Social Sciences.

**Shepherd School of Music**—Music students may opt for either a BA or a
Bachelor of Music (BMus) degree in performance, composition, music history,
and music theory. Students who pass a special qualifying examination may
elect an honors program that leads to the simultaneous awarding of the BMus
and Master of Music (MMus) degrees after five years of study.
**Wiess School of Natural Sciences**—All natural sciences departments, including biochemistry and cell biology, chemistry, earth science, ecology and evolutionary biology, mathematics, and physics and astronomy offer programs leading to the BA degree. BS degrees are offered in some departments. Majors include astronomy, astrophysics, biochemistry, biology, chemical physics, chemistry, earth science, mathematics, and physics. Students also may elect double majors combining one of the programs in natural sciences with another science, a humanities discipline, or an engineering field.

**School of Social Sciences**—Rice offers majors in anthropology, economics, mathematical economic analysis, political science, psychology, and sociology. Both the interdepartmental policy studies major and the cognitive sciences majors include science, engineering, and humanities courses, while the managerial studies major incorporates course work in the schools of engineering and management.

<table>
<thead>
<tr>
<th>School Department</th>
<th>Undergraduate Degrees Offered</th>
<th>Additional Options or Areas of Concentration (within majors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture</td>
<td>BA, BArch</td>
<td>BA majors in architecture and in architectural studies</td>
</tr>
<tr>
<td><strong>George R. Brown School of Engineering</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bioengineering</td>
<td>BSB</td>
<td>Areas of concentration in cellular and molecular engineering, biomedical instrumentation, imaging, optics, and biomaterials and biomechanics</td>
</tr>
<tr>
<td>Chemical and Biomolecular Engineering</td>
<td>BA, BSChE</td>
<td>Focus areas in bioengineering, environmental science and engineering, materials science and engineering, and computational engineering</td>
</tr>
<tr>
<td>Civil and Environmental Engineering</td>
<td>BA, BSCE</td>
<td>BA degree in civil and environmental engineering; BS with focus areas in environmental engineering, hydrology and water resources, structural engineering and mechanics, and urban infrastructure and management</td>
</tr>
<tr>
<td>Computational and Applied Mathematics</td>
<td>BA</td>
<td>Numerical analysis, operations research, optimization, differential equations, and scientific computation</td>
</tr>
<tr>
<td>Computer Science</td>
<td>BA, BSCS</td>
<td>Areas of concentration in architecture, artificial intelligence, computational science, foundations, human-computer interaction, and software systems</td>
</tr>
<tr>
<td>Electrical and Computer Engineering</td>
<td>BA, BSEE</td>
<td>Areas of concentration in computer engineering; photonics and nanoengineering; and systems: control, communication, and signal processing</td>
</tr>
<tr>
<td>Mechanical Engineering and Materials Science</td>
<td>BA, BSME, BSMS</td>
<td>Areas of concentration in aerospace, computational mechanics, fluid mechanics and thermal science, solid mechanics and materials, and system dynamics and control</td>
</tr>
<tr>
<td>Statistics</td>
<td>BA</td>
<td>Areas of concentration include applied and theoretical statistics, statistical computing, large data sets, bioinformatics/biostatistics, environmental statistics and finance</td>
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</tr>
<tr>
<td><strong>SCHOOL OF HUMANITIES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art History</td>
<td>BA</td>
<td>History of art</td>
</tr>
<tr>
<td>Classical Studies</td>
<td>BA</td>
<td>Classics, classical civilizations, classical languages, classical legacy, Greek, Latin</td>
</tr>
<tr>
<td>Education</td>
<td>N/A</td>
<td>Leads to secondary teaching certificate in conjunction with BA in major field. See Education Certification</td>
</tr>
<tr>
<td>English</td>
<td>BA</td>
<td>American and British literature and culture 1300–present</td>
</tr>
<tr>
<td>French Studies</td>
<td>BA</td>
<td></td>
</tr>
<tr>
<td>German Studies</td>
<td>BA</td>
<td>German literature and culture</td>
</tr>
<tr>
<td>Hispanic Studies</td>
<td>BA</td>
<td>Spanish and Latin American literature and Spanish linguistics</td>
</tr>
<tr>
<td>History</td>
<td>BA</td>
<td>Areas of concentration in health science, sports medicine. A separate BA in Sport Management is listed under Interdepartmental majors.</td>
</tr>
<tr>
<td>Kinesiology</td>
<td>BA</td>
<td></td>
</tr>
<tr>
<td>Linguistics</td>
<td>BA</td>
<td>Areas of concentration in language, cognitive science, second language acquisition, and language, culture, and society</td>
</tr>
<tr>
<td>Philosophy</td>
<td>BA</td>
<td>Ethics, history of philosophy, metaphysics, philosophy of mind, philosophy of biology</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>BA</td>
<td>Areas of concentration in specific religious traditions and methodologies</td>
</tr>
<tr>
<td>Visual and Dramatic Arts</td>
<td>BA</td>
<td>Studio, film, and theatre arts</td>
</tr>
<tr>
<td><strong>JESSE H. JONES GRADUATE SCHOOL OF MANAGEMENT</strong></td>
<td></td>
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</tr>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>See minors section below.</td>
</tr>
<tr>
<td><strong>SHEPHERD SCHOOL OF MUSIC</strong></td>
<td></td>
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</tr>
<tr>
<td>Music</td>
<td>BA, BMus</td>
<td>BA in music; BMus in composition, music history, music theory, and performance; joint BMus/MMus with fifth year of study</td>
</tr>
<tr>
<td><strong>WIESS SCHOOL OF NATURAL SCIENCE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biochemistry and Cell Biology</td>
<td>BA, BS</td>
<td>Part of an integrated biosciences curriculum. Degree programs include BA and BS in biochemistry and cell biology and a BA in the biological sciences</td>
</tr>
<tr>
<td>Chemistry</td>
<td>BA, BS</td>
<td>Chemical physics major offered jointly with the Department of Physics and Astronomy and resulting in a BS degree</td>
</tr>
<tr>
<td>Earth Science</td>
<td>BA, BS</td>
<td>Major tracks in geology, geophysics, geochemistry, and environmental earth science</td>
</tr>
<tr>
<td>Ecology and Evolutionary Biology</td>
<td>BA, BS</td>
<td>Part of an integrated biosciences curriculum. Degree programs include BA in the biological sciences and BS in ecology and evolutionary biology</td>
</tr>
<tr>
<td>Field</td>
<td>Degree(s)</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td>BA</td>
<td>300-level courses oriented toward problem solving and applications and 400-level courses and above oriented toward theory and proofs; preparation for graduate studies in mathematical or other sciences, professional schools, employment in the scientific or financial sector or high school teaching or other areas; ample opportunity for double-majoring, especially with CAAM, COMP, ELEC, PHYS, or STAT; abundance of courses in analysis, topology, geometry, algebra, algebraic geometry, dynamics, etc.</td>
</tr>
<tr>
<td><strong>Physics and Astronomy</strong></td>
<td>BA, BS</td>
<td>Majors in physics with specific options in applied physics, biophysics, computational physics, astrophysics, and astronomy; interdepartmental major in chemical physics</td>
</tr>
<tr>
<td><strong>School of Social Sciences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anthropology</td>
<td>BA</td>
<td>Areas of concentration in archaeology and social/cultural anthropology</td>
</tr>
<tr>
<td>Economics</td>
<td>BA</td>
<td>Majors in economics and in mathematical economic analysis</td>
</tr>
<tr>
<td>Political Science</td>
<td>BA</td>
<td>Areas of concentration in American, comparative, and international relations</td>
</tr>
<tr>
<td>Psychology</td>
<td>BA</td>
<td>Areas of concentration in cognitive psychology, industrial/organizational psychology, and human factors/human–computer interaction</td>
</tr>
<tr>
<td>Sociology</td>
<td>BA</td>
<td>Theory, methods, and major substantive areas of the field, including major social institutions and social processes</td>
</tr>
<tr>
<td><strong>Interdepartmental Majors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area Majors</td>
<td>BA</td>
<td>Requires approval of two or more departments, the Office of Academic Advising, and the Committee on Undergraduate Curriculum (see page 13)</td>
</tr>
<tr>
<td>Ancient Mediterranean Civilizations</td>
<td>BA</td>
<td>Anthropology, classical studies, Greek, Hebrew, Latin, history, history of art, linguistics, philosophy, and religious studies</td>
</tr>
<tr>
<td>Asian Studies</td>
<td>BA</td>
<td>Anthropology, Chinese, English, Hindi, history, history of art, humanities, Japanese, Korean, linguistics, political science, religious studies, sociology, Tibetan</td>
</tr>
<tr>
<td>Cognitive Sciences</td>
<td>BA</td>
<td>Computer science, linguistics, neuroscience, philosophy, and psychology</td>
</tr>
<tr>
<td>Education Certification</td>
<td>N/A</td>
<td>Leads to secondary teaching certificate in conjunction with BA in major field</td>
</tr>
<tr>
<td>Environmental Sciences</td>
<td>BA</td>
<td>Core science classes and interdepartmental environmental electives in social sciences, economics, humanities, architecture, natural sciences, and engineering</td>
</tr>
<tr>
<td>Managerial Studies</td>
<td>BA</td>
<td>Accounting, economics, and statistics</td>
</tr>
<tr>
<td>Medieval Studies</td>
<td>BA</td>
<td>Art history, Asian studies, classics, English, French, German, history, humanities, linguistics, Spanish, music, philosophy, political science, and religious studies</td>
</tr>
<tr>
<td>Policy Studies</td>
<td>BA</td>
<td>Environmental policy, government policy and management, healthcare policy and management, international affairs, law and justice, business policy and management, and urban and social change</td>
</tr>
</tbody>
</table>
Sport Management  
Core classes include: introduction to sport management, sport marketing, sport law, event and facility management, sales and revenue generation in sport, media relations, and internship. Students also will complete classes to fulfill research, speech, and writing requirements. Electives include: classes from the business minor, economics, and managerial studies (www.sport.rice.edu)

Study of Women, Gender, and Sexuality  
Anthropology, art history, English, French studies, German, Spanish, history, humanities, economics, linguistics, music, psychology, philosophy, poverty and justice, religious studies, and sociology

<table>
<thead>
<tr>
<th>Departmental and Interdisciplinary Minors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business</strong></td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td>Departmental minor</td>
</tr>
<tr>
<td><strong>Computational and Applied Mathematics</strong></td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td><strong>Energy and Water Sustainability</strong></td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td>(<a href="http://www.ewsu.rice.edu">www.ewsu.rice.edu</a>)</td>
</tr>
<tr>
<td><strong>Financial Computation and Modeling</strong></td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td>Statistics, economics, and finance (<a href="http://www.cofes.rice.edu">www.cofes.rice.edu</a>)</td>
</tr>
<tr>
<td><strong>Global Health Technologies</strong></td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td>Complementary contributions from the humanities, social sciences, policy, bioscience, and engineering programs (<a href="http://www.btb.rice.edu">www.btb.rice.edu</a>)</td>
</tr>
<tr>
<td><strong>Jewish Studies</strong></td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td>(<a href="http://www.jewishstudies.rice.edu">www.jewishstudies.rice.edu</a>)</td>
</tr>
<tr>
<td><strong>Poverty, Justice, and Human Capabilities</strong></td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td><strong>Sociology</strong></td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td>Departmental minor</td>
</tr>
</tbody>
</table>

Teacher Certification

Students in the teacher certification program earn Texas state teacher certification at the secondary level, grades 8–12. Subjects include art, English, French, German, health science technology education, history, Latin, life sciences, mathematics, physical education, physical sciences, physics/mathematics, science, social studies, and Spanish. For more information on teacher certification programs at the undergraduate and graduate levels, see Education Certification in the Departments and the Interdisciplinary Programs and Courses of Instruction sections.

Study Abroad and Work Abroad Programs

Rice University recognizes the increasing necessity for students to incorporate international studies into their academic pursuits before entering the workforce or continuing with graduate studies. The Rice University Office of International Programs provides a wide variety of approved study abroad opportunities around the world, and programs can be specifically designed for any discipline to suit a student’s needs for acquiring international academic and cultural experience. Intensive language instruction, field research, professional internships, and work abroad can be explored with an International Programs advisor.

In most instances, foreign credit is transferable to Rice, and receiving pre-approval for course credit earned abroad is possible. International Programs also offers a variety of scholarships and will help explain and organize affordable financial arrangements for study abroad. In order to ensure proper enrollment,
transferability of course credit, and financial aid, students must make their study abroad arrangements through the Office of International Programs.

Students typically participate during their sophomore or junior years; however, study abroad is possible beginning the summer after freshmen year, and even during one's senior year. Students are discouraged from participating in a study abroad program during their last semester before graduation if they have outstanding university and/or major requirements. Should they choose to go abroad for the spring semester, their degree will not be conferred until the following January. If they choose to go abroad for the fall semester, they will not have their degree conferred until the following May.

Students may visit the Rice International Programs Web site at www.abroad.rice.edu to browse programs, and to sign up for an initial general information session before meeting with an advisor. The Office of International Programs is located in Suite 132 in the Ley Student Center. For more information, please call 713-348-5836 or e-mail www.abroad@rice.edu.

**ACADEMIC REGULATIONS**

All undergraduate students are subject to the academic regulations of the university. Students are responsible for making certain they meet all departmental and university requirements and academic deadlines. The Committee on Examinations and Standing administers the rules described below. Under unusual or mitigating circumstances, students may submit a written petition requesting special consideration to the committee. Students should address all correspondence to the committee in care of the Office of the Dean of Undergraduates.

**REGISTRATION**

Currently enrolled students register in April for the fall semester and in November for the spring semester. Student registration is prioritized based on the hours completed and in academic history. Students matriculating in the fall complete their registration during Orientation Week before classes begin in August. Students matriculating mid-year register during Mid-Year Orientation before classes begin in January. Students are strongly encouraged to meet with their divisional or major advisor to discuss their courses for the upcoming semester.

To be properly registered, new students must complete, sign, and return an matriculation card. New students may not register or attend classes until they return a properly completed health data form and meet immunization and TB screening requirements. Immunizations required for admission are diphtheria/tetanus, measles, rubella, and mumps, with immunizations against hepatitis B and chicken pox recommended. The Mantoux tuberculin skin test also is required. A late fee of $30 is charged for failure to submit a fully completed health data form by the required date.

Each year, the Office of the Registrar publishes the specific deadlines for the semesters of that year. Unless students elect a special payment plan, they must pay all tuition and fees for the fall semester by the end of the second week in August and for the spring semester by the end of the first week in January. Any student not registered as of the last day to add classes or any student who is in arrears or becomes in arrears after the last day to add classes will be withdrawn from the university by default.Withdrawn students may not be allowed to receive credit for the withdrawn semester.
Appeals to this policy must be addressed to the dean of undergraduates. If readmitted, students must petition the Committee on Examinations and Standing to add classes late and must pay a late registration fee of $125. Additionally, students who are readmitted after being withdrawn for nonpayment will be assessed a $300 readmission fee.

**Drop/Add**— During the first two weeks of the semester, students may add or drop courses without penalty. After the second week of the semester, the following conditions apply for adds and drops. Undergraduate students:

- May not add courses after the second week of classes, except in extenuating circumstances and with the approval of the Committee on Examinations and Standing (a $75 fee per course will be assessed).
- May drop courses through the seventh week without penalty.
- May not drop courses after the end of the seventh week of classes except in extenuating circumstances and with the approval of the Committee on Examinations and Standing (a $75 fee per course will be assessed). Students who receive approval to drop a course after the designated drop deadline will receive a grade of “W” for that course.

Newly matriculated undergraduate students in their first semester at Rice are permitted to drop courses up to the last day of classes (a $75 fee per course will be assessed for courses dropped between week seven and the last day of classes).

For courses with start and end dates not coinciding with Rice’s typical semester calendar, otherwise known as “part of term” courses, the Office of the Registrar will consult with the instructor and:

- Set the add deadline approximately one-seventh of the way into the course
- Set the drop deadline approximately one-half of the way into the course
- Post these special deadlines on the Office of the Registrar’s Web site.

Students may not drop courses where the Honor Council has ruled a loss of credit.

*Note:* Weeks are defined as academic instruction; thus, midterm recess is not included in this calculation.

**Course Load**— Students at Rice normally enroll for 15 to 17 semester hours each semester. For most students, this allows completion of graduation requirements in eight semesters. Students must secure permission in writing from the Office of the Academic Advising if they want to register for more than 20 credits. Guidelines for securing permission for more than 20 credits can be found at www.rice.edu/advising. No student may receive credit for more than 20 credits in a semester, including courses taken elsewhere, without prior written approval.

Students must secure permission in writing from the Office of the Dean of Undergraduates before registering for courses if they want to:

- Register for less than 12 credits
- Register concurrently at another university
- Complete graduation requirements elsewhere

Students also should be aware that the Office of the Registrar must report a student's part-time status to various groups, such as loan agencies, scholarship foundations, insurance companies, etc. It is in the student's best interest to determine if he or she will be affected in any way by part-time status.
Repeatecd Courses
Students may repeat courses previously taken, but the record of the first attempt (and grade) remains on the transcript, and both grades are included in term and cumulative grade point average calculations. In most cases, if students repeat courses previously passed, credit is awarded only once. For example, a student took HIST 117 and received a grade of B. The student repeated HIST 117 and received a grade of A. Both grades—the A and B—appear on the transcript and are included in his/her GPA; however, he/she only receives three credits toward his/her degree. On the transcript, a repeated course is indicated by one of the following values:

I–Included in GPA and earned hours
A–Included in GPA, but excluded from earned hours
E–Excluded from both GPA and earned hours

Some Rice University courses may be repeated for credit. They are specifically noted in the Course Offerings each semester. If a course may be repeated for credit, each grade appears on the permanent record and is included in the grade point average. If students repeat courses for which they have received either advanced placement or transfer credit, credit will not be counted. Nor can credit be received twice for students transferring courses that repeat previous enrollment at Rice. Students may not receive credit twice for cross-listed, equivalent, or graduate/undergraduate equivalency courses taken at the same time. If the course is not repeatable, students may not receive credit for cross-listed, equivalent, or graduate/undergraduate equivalency courses taken in different semesters.

Declaring Departmental Majors
Students declare their major via the Declaration of Major form. The department chair or designee must sign the form acknowledging the declaration. The department will counsel the student about the requirements that must be met to complete the major and the likelihood the student will be able to meet them. If the department believes a student is not well prepared for success in its major, it may express its reservations on the form. No department or program, however, may refuse to admit an undergraduate as a major, with the exception of the School of Architecture and the Shepherd School of Music or in the case of limitations of resources. In such cases, departments must publish criteria they will use to limit the number of majors together with their major requirements.

Students must declare a major during the spring of their sophomore year. They will not be permitted to register for the fall semester of their junior year without having declared a major. The major declaration deadline is listed in the Academic Calendar each year.

Students are free to declare a major at any time before this deadline and always are free to change their major by completing the appropriate form. However, such a change may entail one or more additional semesters at the university. Area majors are an exception to this rule and must be declared by the fourth semester before graduation (see Area Majors below).

Once a student declares a major, the title of the major is noted on the student’s transcript, and a faculty advisor in the major department is assigned. To gain full benefit of departmental or major offerings, students should meet regularly with faculty major advisors. To assess progress toward degree requirements, students must complete two steps: 1) students should request ECAPP degree
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1) Audits (via ESTHER) to review progress toward general degree requirements; 2) students should meet regularly with their faculty major advisors to review progress toward major degree requirements.

**Area Majors**

Students with well-defined needs that are not met by established departmental or interdisciplinary majors may propose an area major. Area majors combine courses from more than one department into a cohesive plan of original study that is equivalent in quality and rigor to a traditional major.

Area majors are rare and limited by the available academic resources and must be distinct from other majors at Rice. They differ from double majors, which must conform to the requirements of both departments. An area major constitutes a single major with specific requirements that include courses from two or more departments. An area major may not be used to form a double major, and students with area majors must still meet all the other university graduation requirements.

Students initiate an area major after first consulting with faculty advisors from each of the departments involved. Once support has been obtained from these faculty advisors, students should consult the Office of Academic Advising which serves as a liaison to the Committee on the Undergraduate Curriculum (CUC). Students work closely with each faculty advisor to design a comprehensive and substantial course of study and to decide on an appropriate title. This course of study must be formulated in a written proposal. Each faculty advisor and the Office of Academic Advising must sign off on the plan before submission to the chair of the CUC. The CUC determines final approval. As part of the review process, the CUC consults chairs of the involved departments to confirm that courses necessary for successful and timely completion of the major will be offered. If approved, the Office of Academic Advising officially certifies the area major plan to the Office of the Registrar and goes on to oversee the major on behalf of the faculty advisors. Any change in the area major requirements needs the approval of both the faculty advisors and the CUC.

Students may not propose an area major if they are within three semesters of graduation unless the Committee on Examinations and Standing rules that exceptional circumstances warrant this action. Under no circumstances may students propose an area major in their final semester before graduation.

**Second Four-Year Bachelor’s Degree**

Currently enrolled undergraduates, Rice graduates with a bachelor’s degree, and graduates from other universities with a bachelor’s degree have the option of earning a second four-year bachelor’s degree at Rice in a different discipline. This degree must be a different bachelor’s degree from the one already held; for example, the holder of a BA degree may pursue course work leading to the BS or BMus degree. Rice students should note that they can apply courses they completed at Rice as visiting or Class III students to the second degree only with the approval of the major department for that degree. (Class III students are students who already have college degrees and are taking courses for credit outside of a Rice degree program.)

**Students Already Enrolled at Rice**—To earn a second four-year bachelor’s degree, also known as a dual degree, currently enrolled undergraduates who have not yet completed their first bachelor’s degree must:

- Be accepted for the second major by the major department
- Fulfill all requirements for the second degree
• Complete at least 30 additional semester hours at Rice beyond the hours required for their first degree (these hours are applied to the second degree)

Students seeking a second degree should submit an additional declaration of major form with the Office of the Registrar. This paperwork should include the addition of the proposed degree and major programs along with the approval of the chair or undergraduate advisor of each department involved, indicating that the proposed course program satisfies all major and degree requirements.

**Students with a Bachelor's Degree from Rice**—Rice graduates who wish to earn a different four-year bachelor’s degree must:

• Be accepted for the major by the major department
• Fulfill all requirements for the second degree
• Complete at least 30 additional semester hours at Rice (must include two full-time fall and/or spring semesters) upon their return to Rice and beyond their first bachelor’s degree (these hours are applied to the second degree)

The entire undergraduate record for these students continues cumulatively. Those seeking admission to this program should complete an application for a second degree with the Office of the Registrar. The application should include a written statement specifying the proposed major and course program for the second degree, a supporting letter from the chair of the major department, and an explanation of the student’s reasons for seeking a second degree.

**Students with a Bachelor's Degree from Another School**—Other graduates who wish to earn a four-year bachelor’s degree in a different major from Rice must:

• Fulfill all requirements for the second degree
• Complete at least 60 semester hours at Rice (these hours are applied to their Rice degree)
• Attend Rice full time for at least four fall and/or spring semesters

Interested students should apply for admission through the Office of Admission. See 43 for details on application requirements for Second Degree Students.

**Financial Aid and Housing**—Students seeking information about financial aid available to participants in the second degree program should contact the Office of Student Financial Services. Students admitted to the second degree program may request assignment to a college, but they will have lower priority for on-campus housing than students enrolled for a first four-year bachelor’s program. This means that housing probably will probably not be available.

**Honors Programs**

To enroll in the two-semester Rice Undergraduate Scholars Program, students register for HONS 470–471 Proposal Development and Research. This program is for juniors and seniors in all disciplines who are considering graduate study and an academic career after graduation. Students enroll in the program plan and execute independent research under the supervision of a sponsoring faculty member (they may apply for funding to cover expenses related to their projects). They meet once a week to discuss each other's work and to hear a range of presentations on life in academia. Students may apply in the spring of each year. For more information, contact the program’s faculty co-director.
Individual departments may offer undergraduates the option of honors program enrollment. These programs enable students to receive advanced training or to deepen their understanding of a given discipline through an intensive program of independent supervised research. Customary procedure is for students to submit a proposed project to their department's Undergraduate Committee, which helps them rework it, as needed, into a substantial but feasible proposal. Once accepted, students are assigned a faculty advisor to guide their research. The project concludes in an honors thesis, which the advisor and two readers evaluate, and an oral examination. Departments also use honors programs to formally recognize students who have shown outstanding work through their individual projects. Acceptance into a departmental honors program is at the discretion of the faculty. For specific requirements and procedures, students should contact the individual departments.

Transfer Credit
Courses taken at another college or university that are appropriate to the Rice curriculum may be approved for transfer credit toward a Rice undergraduate degree. Students must have taken the course at a United States academic institution accredited by a regional accrediting agency or with a study abroad program approved by the Rice Office of International Programs and must have earned a grade of C- or the equivalent or better. Students may not transfer courses taken pass/fail or on a similar basis at other institutions. Grades earned for transfer credit are not entered on the Rice transcript, and transferred courses have no effect on a student's Rice grade point average. After matriculation at Rice, students are limited to 14 semester hours of summer school transfer credit. Individual departments may place additional restrictions on particular courses and/or institutions. Similarly, various majors and degree programs may limit the amount of transfer credit that students may apply to them.

All transferable credits from quarter-system schools will be converted to semester hours. In accordance with university guidelines and based on the external transcript, the Office of the Registrar will determine appropriate transferable credit hours and whether the credits are upper-level or lower-level.

Students with much transfer credit should be aware of the general graduation requirements (see pages 2–5): Students must complete at least 60 semester hours, more than half of their upper-level degree work, and more than half of their upper-level major work at Rice. (Students also should check their specific departmental major requirements.)

Pre-Matriculation Transfer Credit—For transfer work completed prior to matriculation, the Office of the Registrar, in conjunction with the academic departments, determines whether courses are appropriate for transfer to Rice as Rice equivalent courses or as TRAN, general elective hours. TRAN will be indicated as either upper- or lower-level and will count toward the total hours needed for graduation and for required upper-level credit if the TRAN credit is designated by the Office of the Registrar as upper-level. If courses transferred to Rice as TRAN credit are subsequently granted Rice equivalent course credit by the Office of the Registrar and academic department, the TRAN credit is reduced by the number of credit hours of the Rice equivalent course. The Rice equivalent course is then listed on the student's transcript and satisfies the university and major requirements the Rice course satisfies.

Pre-Matriculation International Transfer Credit—Students seeking transfer credit for courses taken at institutions outside the United States must present a professional course-by-course evaluation of the foreign official transcript. The
professional evaluation must verify that the foreign institution is equivalent to a regionally accredited U.S. academic institution and must include an explanation of credits earned (including U.S. semester hour equivalents), grade equivalents, and course levels (lower or upper level). Two reliable services with course-by-course evaluations that include this required information are World Education Services, Inc. (www.wes.org) and Educational Credential Evaluators, Inc. (www.ece.org). All professional evaluations should be obtained from one of these two recommended credential services and submitted to the Office of the Registrar. Payment for the professional evaluation is the responsibility of the student.

**Post-Matriculation Transfer Credit**—Continuing students who plan to transfer courses are strongly advised to seek prior approval. Without such approval, students cannot be certain transfer credit will be accepted at Rice. To receive Rice equivalent credit, students are required to complete the appropriate form and secure approval from the designated transfer credit advisor in the department offering the Rice equivalent course. Unless approval is secured before or after completing the transfer credit, students can expect transferable courses to be granted TRAN. Transfer credit will be evaluated only after the Office of the Registrar receives an official transcript from the other college or university.

**Study Abroad Transfer Credit**—For continuing students with credits obtained while studying abroad, the Office of the Registrar must also receive a Request for Transfer Credit form from the Rice Office of International Programs before transfer credit may be granted. In certain cases, students may be required to obtain a professional evaluation of the study abroad transcript. Two reliable services with course-by-course evaluations that include this required information are World Education Services, Inc. (www.wes.org) and Educational Credential Evaluators, Inc. (www.ece.org). All professional evaluations should be obtained from one of these two recommended credential services and submitted to the Office of the Registrar. Payment for the professional evaluation is the responsibility of the student.

**Attendance and Excused Absences**

Students are expected to attend all scheduled activities for all of the classes for which they are registered during the entire course of the academic semester for which they are enrolled. The academic calendar indicates normal class days, recesses, and holidays. Instructors, however, may schedule required activities on other days, including recesses, holidays, and weekends, if required by programmatic needs, such as laboratories or field trips. Such requirements must be clearly stated in the online course description available at registration and on the syllabus, and instructors should try to provide compensatory time off for students.

The university understands that students participating in university-sponsored extracurricular activities may, on rare occasions, need to miss a class session during the semester. As a matter of course, students should inform their instructors in advance of absences resulting from participation in university-sponsored activities, and faculty normally will give a reasonable opportunity to make up work missed on such occasions.

No nonacademic university-sponsored event at which student attendance is required may be scheduled or rescheduled for any date after the day following the last day of classes. Exceptions may be granted by a quorum of the Committee on Examinations and Standing only for events where scheduling is not under the control of the university. On the class days falling during the last calendar week of classes, an individual student may participate in only one university-
sponsored event, which may be scheduled or rescheduled, so long as no more than one night would be spent outside of Houston for travel. For events during the last week of classes, the reading period, and the final examination period, a quorum of the Committee on Examinations and Standing must be satisfied that each student is in satisfactory academic standing to participate in an event. If a quorum of the Committee on Examinations and Standing cannot meet in a timely fashion, then the executive committee of the Faculty Senate will handle exception requests.

Absences for activities other than university-sponsored events may be negotiated on an informal basis between the student and the faculty member. Alternatively, absences may be formally excused on a case-by-case basis if a petition explaining the nature of the event, accompanied by suitable documentation, is submitted to the Committee on Examinations and Standing at least two weeks before the event.

**Final Examinations**

The decision to give a final exam as a required part of the course rests with the instructor. All tests and examinations are conducted under the honor system. No examinations or other course assignments may be due between the last day of classes and the first day of the final examination period.

Examinations are considered final examinations when they:
- Cover more than the material learned since the last exam, or
- Are the only exam in the course, or
- Require comprehensive knowledge of the entire course

Such exams may be given only during the final examination period.

All class periods will be assigned a final examination time by the Office of the Registrar. Instructors may choose to use that time for a scheduled final. If they choose this option, the Office of the Registrar will assign a room, and the final exam will be administered in that room at the designated time. Instructors may choose instead to give a take-home exam or no exam at all. Some instructors assign end-of-term projects or papers rather than final examinations. With regard to due dates, final papers or projects will be treated the same as take-home exams.

Take home exams should be available to the students as soon as possible after the end of classes, but must be available no later than the end of the next business day after classes have ended. Take home exams may be no longer than five hours in length. The due date of take-home exams may be no earlier than the end of the examination time assigned to that class by the Office of the Registrar. Instructors may specify due dates later than this time but not later than the end of the last day of the examination period.

No student should be given an extension of time or opportunity to improve a grade that is not available to all members of the class, except for verified illness or justified absence from campus. However, students cannot be required to take more than two scheduled exams in two consecutive calendar days. Students also cannot be required to complete more than two take-home and/or scheduled final exams on the same calendar day (unless this is the last day of the examination period). In both instances, if the student wishes to make alternative arrangements and is unable to work out such arrangements with the instructor(s) involved, the instructor of the third and any subsequent exams will be required to allow the student to reschedule that exam.
Grades (See also Faculty Grading Guidelines in General Information section, pages 3–4.)

The Pass/Fail Option—Undergraduates may register for courses on a pass/fail basis. Students:

- May not take more than one course as pass/fail per semester for each full year of residence (students studying in off-campus programs through Rice are considered to be in residence for the purpose of this rule)
- May not take more than four courses total as pass/fail (even if they are in a five-year degree program)
- May not take more than a total of 14 semester hours total as pass/fail
- May register for only one course as pass/fail in a semester
- May not take as pass/fail those courses specifically required for the major or courses falling within the major department or major area. If students take such courses pass/fail, the Office of the Registrar will replace the P with the grade earned during the final degree audit. This same rule and process applies to minors.
- Must file the proper form for a course to be taken pass/fail no later than the posted deadline, usually the end of the 10th week of the semester

Students may convert a pass/fail course to a graded course by filing the proper form with the Office of the Registrar. The deadline is by the end of the second week of the following semester.

Students should be aware that while a grade of P does not affect their grade point average, a grade of F is counted as a failure and is included in their GPA. Students who take a course during the Rice summer session as pass/fail also should be aware that this counts toward their allowable total of four courses.

Grade Symbols—Instructors are required to report a grade for all students whose names appear on the class list. They grade their students using the following conventional symbols: A+, A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F. For auditing students, instructors report either the AUD or the NC grade symbol, the AUD if the student met the audit requirements of the class, or the NC if they have not.

Students successfully completing a course pass/fail receive a P, and failure to complete the course successfully is indicated by an F. A P does not affect the grade point average. Completion of the composition requirement is denoted by a grade of E.

Satisfactory/unsatisfactory courses are those that do not use traditional grading procedures. Such courses or labs are designated by the instructor and are, in most cases, graduate level courses. Students successfully completing a course satisfactory/fail receive an S; failure to complete the course successfully is indicated by an F. While an S does not affect the grade point average, an F does.

Grade Designations—Under certain circumstances, special designations accompany the student’s grade. These designations do not affect the grade point average. The special designations include the following:

AUD (“Audit”)—This designation is only used for people auditing the course, and specifically where the auditing student has met the audit requirements of the course. There is no credit associated with an AUD grade designation.

INC (“Incomplete”)—Instructors report this designation to the Office of the Registrar when a student fails to complete a course because of verified
illness or other circumstances beyond the student’s control that occur during the semester. For an incomplete received in the fall semester, students must complete the work by the end of the fourth week of the spring semester or an earlier date as defined by the instructor, and instructors must submit a revised grade by the end of the fifth week. For an incomplete received in the spring semester, students must complete the work before the start of the fall semester or an earlier date as defined by the instructor, and instructors must submit a revised grade by the end of the first week.

Students with an “incomplete” must be certain that tests, papers, and other materials affecting their grade or essential to completing a course requirement are delivered by hand to the appropriate professor or office according to the timeline previously stated, for the instructor to grade the documents and submit the final grade to the Office of the Registrar by the deadline. Loss or lateness because of mail service is not an acceptable excuse for failing to meet academic deadlines. A student who receives two or more “incompletes” in a semester may not enroll in the next semester for more than 14 semester hours. Students also should be aware that they may be placed on probation or suspension when the “incomplete” is changed to a grade, either by an instructor or by default.

OT (“Other”)—Instructors report this designation to the Office of the Registrar when a student fails to appear for the final examination after completing all the other work for the course. Students must resolve the matter, and instructors must submit a revised grade, by the end of the first week of the spring semester or by the end of the fourth week after Commencement, whichever is applicable. Students should be aware that they may be placed on probation or suspension when the “Other” is changed to a grade, either by an instructor or by default.

W (“Official Withdrawal from University”)—Students who officially withdraw from the university during the last five weeks of the semester will receive a final grade of “W” for each course in which they were enrolled at the time of withdrawal. In addition, the professors of those students who withdraw during that time will submit a grade based on the student’s academic achievement at the time of withdrawal to the Office of the Registrar.

Students who officially withdraw from the university before the last five weeks of the semester will not receive the grade of “W” for any courses in which they were enrolled for that semester. These courses will not be included on the official transcript.

W (“Late Drop with Approval”)—A student who receives approval from the Committee on Examinations and Standing to drop a course after the designated drop deadline will receive a grade of “W” for that course. When requests for late drops are denied by the committee, the Office of the Registrar records the submitted grade.

If a student drops a class before the designated drop deadline for the semester, the course will not be included on his/her official transcript. New matriculants in their first semester at Rice may drop a class up until the last day of classes, and the course will not be included on the student’s official transcript.

NC (“No Credit”)—This designation signals that no credit was granted for the course. It is used in situations where a person auditing a course has not met the audit requirements of the course. The “No Credit” designation also is used in various honor council or judicial situations where a student is required to forfeit credit for a course.
Grade Points—To compute grade point average, letter grades are assigned numeric values as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.33</td>
</tr>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td>3.67</td>
</tr>
<tr>
<td>B+</td>
<td>3.33</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td>2.67</td>
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<tr>
<td>C+</td>
<td>2.33</td>
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<tr>
<td>C</td>
<td>2.00</td>
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<tr>
<td>C-</td>
<td>1.67</td>
</tr>
<tr>
<td>D+</td>
<td>1.33</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
</tr>
<tr>
<td>D-</td>
<td>0.67</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Grade Point Average Calculation—For each course, the credit hours attempted and the points for the grade earned are multiplied. The points for each course are added together, and the sum is divided by the total credit hours attempted. Grade point averages are noted each semester on the student’s official transcripts.

President’s Honor Roll—This honor roll, published each semester, recognizes outstanding students. To be eligible, students must have earned grades in a total of 12 or more semester hours without receiving a grade of F. (Pass/Fail courses may not be counted.) Alternatively, approximately the top 30 percent of undergraduates receive recognition each semester. While undergraduates enrolled in a four-year bachelor’s degree program always are eligible for the President’s Honor Roll, students enrolled in five-year bachelor’s or master’s programs are eligible only during their first eight semesters.

University (Latin) Honors—Unlike the President’s Honor Roll, which recognizes academic excellence achieved over a single semester, eligibility for the three categories of Latin Honors (summa cum laude, magna cum laude, and cum laude) are based on the cumulative grade point average for all undergraduate work at Rice. Recipients are determined by the following procedure: At the end of the spring semester and after receipt of all grades, the grade point average within the highest five percent of the year’s graduating class is recommended for the summa cum laude honor. The grade point average included within the next highest 10 percent is used to determine those eligible to graduate with the magna cum laude honor. Finally, the grade point average included within the next 15 percent is used to determine those students eligible to graduate with the cum laude honor. Thus, approximately 30 percent of each graduating class receives Latin Honors on graduation.

Academic Discipline and Other Disciplinary Matters

Academic Probation—Students are placed on academic probation at the end of any semester if:

- Their grade point average for that semester is less than 1.67, or
- Their cumulative grade point average is less than 1.67 (this requirement is waived if the grade point average for that semester is at least 2.00)

The period of probation extends to the end of the next semester in which the student is enrolled. Students on probation (academic or other disciplinary matters) may not be candidates for, or hold, any elected or appointed office, nor are they allowed to enroll in more than 17 semester hours.

Academic Suspension—Students are suspended from the university at the end of any semester if they:
• Earn grades that will place them on academic probation a third time, or
• Have a grade point average for the semester that is less than 1.00 (exceptions are made for students completing their first semester at Rice)

Students readmitted after a previous suspension will again be suspended if in any succeeding semester they fail to achieve at least one of the following requirements:
• a cumulative and semester grade point average of at least 1.67, or
• a semester grade point average of at least 2.00

The first suspension period is normally one semester; the second suspension period is at least two semesters. Students are not readmitted after a third suspension.

Participation in student activities on and off campus and use of Rice facilities, including, but not limited to, the student center, the colleges, the playing fields, the gym, and the computer labs, are limited to enrolled students.

Students placed on academic suspension are notified by the Office of the Registrar after all final grades have been received and posted to their record. Suspension is lifted the first day of class of the semester when the student returns to the university. When students serve the nominal term of suspension but do not intend to return to Rice, suspension is lifted after permission from the Committee on Examinations and Standing is granted.

Students facing a first or second academic suspension who verify with the Office of the Registrar, academic advising, and their department that successful completion of their proposed academic plan would satisfy their degree requirements in one semester if allowed to return, may have their suspension reduced to probation. This is known as the senior exception rule, and students may invoke this ruling only once for a given academic degree plan. Students who graduate at the end of a semester under academic circumstances that would normally place them on probation or suspension will not have the terms “academic probation” or “suspension” placed on their transcript for that semester.

Readmission after Suspension—Students seeking readmission after academic suspension should address a letter of petition to the Committee on Examinations and Standing, in care of the Office of the Dean of Undergraduates, which must be received by July 1 for readmission in the fall semester and December 1 for readmission in the spring semester. The petition must include two supporting letters from persons for whom the student has worked during the suspension period as a student or an employee. The petition also must include an academic plan approved by the Office of Academic Advising. To allow time for review and revision, academic plans must be submitted to the Office of Academic Advising by June 1 for readmission in the fall semester and November 1 for readmission in the spring semester. Guidelines for completing an academic plan can be found at www.rice.edu/advising. If the problems causing the previous difficulty appear to be resolved, the student generally is readmitted. Students returning from academic suspension must maintain regular contact with the Office of Academic Advising or a designated faculty advisor throughout the semester. In the first semester upon return from an academic suspension, students may not become candidates for, or hold, any elected or appointed office, nor are they allowed to enroll in more than 17 semester hours.

In some instances, the committee may postpone approval of readmission or rule that suspension is permanent. Although it may do so at its discretion, the Office of the Registrar does not normally place on probation or suspension
students who perform poorly in the Rice Summer School. Students should be aware, however, that Rice Summer School grades are included in their grade point averages.

Disciplinary Probation and Suspension—The assistant dean of student judicial programs may place students on probation or suspension for an honor system violation or for other disciplinary or code of conduct reasons. Students who are on disciplinary suspension, under investigation for disciplinary violations, or who have disciplinary proceedings pending against them (including for an honor system or code of conduct violation) may not receive their degree even if they have met all academic requirements for graduation. Students who are suspended must leave the university within 48 hours of being informed of the dean’s decision, although in cases of unusual hardship, the college master and assistant dean of student judicial programs may extend the deadline up to one week. Any tuition refund will be prorated from the official date of suspension, which is determined by the Office of the Registrar. While on disciplinary suspension or probation, students may not run for, or hold, any elective or appointed office in any official Rice organization, nor may they serve as Orientation Week advisors once they return to the university following a suspension. Participation in student activities on and off campus and use of Rice facilities, including, but not limited to, the student center, the colleges, the playing fields, the gym, and the computer labs, are limited to enrolled students.

Students seeking readmission after leaving the university because of disciplinary actions (including honor system or code of conduct actions) or other nonacademic action should submit a petition in writing for review by the assistant dean of Student Judicial Programs.

Withdrawals and Leaves

All students taking a leave or withdrawal from Rice should submit their request on the Separation Form found at www.students.rice.edu/students/deanofundergraduates.asp.

After a separation of more than four semesters, students must submit a written application to the Committee on Examinations and Standing no later than July 1 for the fall semester and December 1 for the spring semester. The petition should include an academic plan approved by the Office of Academic Advising and two letters of support. To allow time for review and revision, academic plans must be submitted to the Office of Academic Advising by June 1 for readmission in the fall semester and November 1 for readmission in the spring semester. Guidelines for completing an academic plan can be found at www.rice.edu/advising.

Voluntary Withdrawal and Readmission—Students may withdraw voluntarily from the university at any time during the semester up until the last day of classes. Students wishing to withdraw should inform their college master in person and give written notification to the Office of the Dean of Undergraduates, who notifies other offices of the university as necessary. Students who fail to give notice of withdrawal should expect to receive failing grades.

If they are in good academic standing at the time of their withdrawal, students may be considered for readmission after they submit a written application to the Office of the Dean of Undergraduates. The petition, received no later than July 1 for the fall semester, and December 1 for the spring semester, should include an academic plan approved by the Office of Academic Advising and
two letters of support. To allow time for review and revision, academic plans must be submitted to the Office of Academic Advising by June 1 for readmission in the fall semester and November 1 for readmission in the spring semester. Guidelines for completing an academic plan can be found at www.rice.edu/advising. If students withdraw within five weeks of the last day of classes, they must submit the written application to the dean of undergraduates who, at his discretion, will submit it to the Committee on Examinations and Standing. If students withdraw within five weeks of the last day of classes, the Committee on Examinations and Standing takes into account their grades (which reflects their performance up to the day of withdrawal) when ruling on their readmission. Students whose grades would have led to suspension had they not withdrawn are treated, for purposes of readmission, as if they had been suspended. If students voluntarily withdraw for major medical or psychological/psychiatric reasons, however, they must meet the readmission conditions for a medical or involuntary withdrawal.

Medical Withdrawal—Students may request a medical withdrawal from the university by applying in writing to the Office of the Dean of Undergraduates at any time during the semester, up until the last day of classes.

Following a medical withdrawal, students should submit a written petition for readmission to the Office of the Dean of Undergraduates no later than July 1 (June 1 for international students) for the fall semester and November 1 (October 1 for international students) for the spring semester. This petition must include documentation of treatment provided. Students also may be required to schedule an interview with the director of the Rice Counseling Center or Student Health Services or their designee. The petition also must include an academic plan approved by the Office of Academic Advising. To allow time for review and revision, academic plans must be submitted to the Office of Academic Advising by June 1 for readmission in the fall semester and November 1 for readmission in the spring semester. Guidelines for completing an academic plan can be found at www.rice.edu/advising.

Students who withdraw for psychological reasons within the last five weeks of the fall semester will not be eligible to apply for immediate readmission. An appeal for readmission will not be considered until the fall semester of the following year, and must be received no later than July 1. (June 1 for international students.)

Further information regarding the medical readmission process is available by contacting the Office of the Dean of Undergraduates.

Involuntary Withdrawal—The university may insist on a student’s involuntary withdrawal if, in the judgment of the Dean of Undergraduates or his/her designee, the student’s behavior includes, but is not limited to, one or more of the following:

- Poses a threat to the safety or welfare of him/herself or other members of the Rice community;
- Has a serious medical or a psychological condition that the student cannot effectively address while enrolled or which is likely to be severely exacerbated by the Rice academic and/or living environment;
- Demonstrates behavior that seriously interferes with the education of other members of the Rice community;
- Is not able to continue functioning as a student
Following an involuntary withdrawal, students should submit a written petition for readmission to the Office of the Dean of Undergraduates no later than July 1 (June 1 for international students) for the fall semester and November 1 (October 1 for international students) for the spring semester. This petition must include documentation of treatment provided. Students may be required to schedule an interview with the director of the Rice Counseling Center or Student Health Services or their designees. The petition also must include an academic plan approved by the Office of Academic Advising. To allow time for review and revision, academic plans must be submitted to the Office of Academic Advising by June 1 for readmission in the fall semester and November 1 for readmission in the spring semester. Guidelines for completing an academic plan can be found at www.rice.edu/advising. Further information is available by contacting the Office of the Dean of Undergraduates.

Students who are involuntarily withdrawn for psychological reasons within the last five weeks of the fall semester may not petition for readmission for the spring semester immediately following the semester from which they are withdrawn. Petitions should be received no later than July 1 (June 1 for international students) to be considered for readmission for the upcoming fall semester.

**Unauthorized Withdrawal**—Students who leave the university without first obtaining permission to withdraw are considered to have resigned. Resigned students will only be considered for readmissions under exceptional circumstances. In order to be considered for readmission, students must submit a petition no later than July 1 for the fall semester and December 1 for the spring semester to the Committee on Examinations and Standing, in care of the Office of the Dean of Undergraduates. The petition also must include an academic plan approved by the Office of Academic Advising. To allow time for review and revision, academic plans must be submitted to the Office of Academic Advising by June 1 for readmission in the fall semester and November 1 for readmission in the spring semester. Guidelines for completing an academic plan can be found at www.rice.edu/advising.

**Leave of Absence**—Students may request a leave of absence from the university by applying in writing to the Office of the Dean of Undergraduates at any time before the first day of classes in the semester for which they are requesting a leave. A leave of absence taken after the first day of classes is considered a voluntary withdrawal.

To gain readmission following an approved leave of absence of not more than four semesters, students must notify the Office of the Dean of Undergraduates at least one month before the beginning of the semester that they intend to end their leave. The student also must include an academic plan approved by the Office of Academic Advising.

After a leave of more than four semesters, students must submit a written application to the Committee on Examinations and Standing no later than July 1 for the fall semester and December 1 for the spring semester. The petition should include an academic plan approved by the Office of Academic Advising and two letters of support. To allow time for review and revision, academic plans must be submitted to the Office of Academic Advising by June 1 for readmission in the fall semester and November 1 for readmission in the spring semester. Guidelines for completing an academic plan can be found at www.rice.edu/advising.
Approval of a leave of absence is always contingent on the student’s satisfactory completion of course work in the semester preceding the leave. Students performing poorly may have their approved leave converted to suspension.

**Military Leave of Absence**—Students who require a leave of absence because of being called to active military duty should contact the Office of the Dean of Undergraduates.

**All Separated Students, Presence on Campus**—All students separated from Rice, whether voluntarily or involuntarily, withdrawn or due to academic or disciplinary suspension, must leave campus within 48 hours. Exceptions are granted by the Dean of Undergraduates or, in the case of disciplinary suspensions, the Assistant Dean of Student Judicial Programs and, if the student is living on campus, the College Master. All separated students must return their college key to their college coordinator and their student ID to the Dean of Undergraduates. All separated students must understand that participation in student activities on and off campus and use of Rice facilities, including, but not limited to, the student center, the colleges, the playing fields, the gym, and the computer labs, are limited to enrolled students. Separated students are expected to be away from Rice during the term of the separation. If the student is employed by Rice at the time of separation, he or she must relinquish such employment or petition the Dean of Undergraduates for written permission to continue the on-campus employment. Noncompliance with these requirements may delay readmission.

**All Readmitted Students, Return to Campus**—Students who have been readmitted must comply with any restrictions or requirements placed upon them by the Dean of Undergraduates or the Assistant Dean of Student Judicial Programs. Failure to comply with or follow the restrictions or requirements may be cause for disciplinary action under the Code of Student Conduct.

**Completing Graduation Requirements Elsewhere**—Students planning to complete and transfer in remaining courses from another institution must first secure formal written approval from the Dean of Undergraduates. Transfer credit is subject to all Rice’s transfer credit policies. All other graduation requirements apply, and the student is expected to adhere to all requirements and deadlines.

**Applicable Academic Graduation Requirements**

Students enrolled in four- (or five-) year bachelor’s programs may decide whether to follow the graduation requirements in effect when they first registered at Rice or those in effect when they graduate. If they graduate more than seven (or eight) years after their initial registration, students must graduate under the regulations in effect at the time of their last readmission or those in effect when they graduate. Also, departments may review courses completed in a major more than seven (or eight) years before the student’s anticipated graduation. If the department concludes that a course no longer satisfies the requirements of the major, it is not credited toward the major program, although it remains on the student’s record.

Departmental major requirements may vary from year to year during the period between a student’s matriculation and graduation. The department may, at its discretion, make any of these variations available to a student for completion of the major requirements. If a new degree program, major, or minor is created during the student’s time at Rice, the new program will be available to the student as if the program appeared in the *General Announcements* at the time of matriculation.
Name Changes
To comply with a number of government agencies’ reporting requirements, the university must record the name of each student who is a U.S. citizen as the student’s name appears on his or her Social Security card. Students who need to change their names on Rice University records and who are U.S. citizens must notify the Office of the Registrar and present a Social Security card, marriage license, divorce decree or court order, and picture identification when submitting the form. After the change is implemented, the name on the Rice University transcript will read as printed on the supporting document(s).

Change in Registration
The academic calendar lists deadlines for dropping or adding a class or section. This schedule is binding for all students. Adding or dropping a course, including transferring from one section to another or changing credit status in a course must be accomplished through completion of the appropriate forms and submission to the Office of the Registrar. Changing a course to/from audit must be done within the first two weeks of the semester. Students can request exceptions to these deadlines by petitioning the Committee on Examinations and Standing.

Transcript Policies
Official transcripts are issued only at the request of the student. Official transcript requests should be made at least five working days before the desired date of issue. A $5 fee per transcript must be received before a transcript is issued.

Transcripts that have been presented for admission or evaluation of credit become a part of the student’s permanent record and are not reissued. Transcripts from other institutions, if needed, must be sent to Rice University directly from the original issuing institution.

Student Records
Rice University assures the confidentiality of student educational records in accordance with state and federal laws, including the Family Educational Rights and Privacy Act. Student academic records are maintained primarily in the Office of the Registrar and in the academic department of the student’s major as well as in various other offices around campus. All students have the right to review their records to determine their content and accuracy, to consent to disclosures of personally identifiable information as defined by law, and to file complaints with the Department of Education.

Release of Student Information from Educational Records
The disclosure or publication of student information is governed by policies of Rice University and the Family Educational Rights and Privacy Act.

A student’s consent is required for the disclosure or publication of any information that is a) personally identifiable and b) a part of the educational record. However, certain exceptions to this general rule, both in types of information that can be disclosed and in access to that information, are allowed by the regulations of the Family Educational Rights and Privacy Act. Rice may allow access to personally identifiable information without a student’s prior consent to its faculty or staff who legitimately require this information to perform their instructional, supervisory, advisory, or administrative duties.
In accordance with the law, a student’s prior consent is not required for disclosure of portions of the educational record defined by the institution as directory information. The following directory information may be released by the university:

1. Name, local and permanent address, telephone and mobile number(s), campus email address(es), and instant messenger address(es)
2. Date, place of birth, and gender
3. Classification and major and minor fields of study
4. Participation in officially recognized activities and sports
5. Weight and height of members of athletic teams
6. Dates of attendance, degrees and awards received
7. The most recent previous educational agency or institution attended by the student
8. Photographic image

The information above, designated by the university as directory information, may be released or published by the university without a student’s prior written consent unless exception is made in writing by the student or the parents of a dependent student. Students who prefer to avoid access to or release of directory information must notify the Office of the Registrar by completing the Release or Withhold Directory Information form, available online in ESTHER, preferably before the end of the second week of fall classes, and the university will withhold access to, or release of, directory information until further written instruction is received.

Students have a right to challenge the accuracy of their educational records and may file written requests to amend these records. The Office of the Registrar should be contacted for further information regarding the procedure to follow for questions or problems. Students have a right to file a complaint with the U.S. Department of Education concerning alleged failures by Rice University to comply with the requirements of FERPA. For more information regarding FERPA, please visit the U.S. Department of Education’s website.

For complete information regarding Rice’s policy on student education records, please contact:

**Rice University Office of the Registrar**
Rice University
Office of the Registrar–MS 57
6100 Main Street
Houston, TX 77005-1892
Email: registrar@rice.edu

**Veterans Information**

At Rice University, the Office of Veterans Affairs is managed through the Office of the Registrar. This office assists all veterans and their dependents who wish to receive Veterans Administration (VA) educational benefits. The office also provides personal counseling, fee deferments, tutorial assistance, and work-study jobs.

Veterans who are planning to attend the university should contact the Office of Veterans Affairs at least two months before the date of entry. Such time is required to expedite the processing of paperwork for educational allowances from the VA.
For certification of benefits, the student must be enrolled according to the following schedule:

- **Full Time** ............... 12 credits
- **1/2 Time** ................. 6 credits
- **3/4 Time** ............... 9 credits
- **Less than 1/2 Time** .... 5 credits

For rate of monthly payment of educational allowances for veterans and dependents, please contact the Office of Veterans Affairs.

For additional information regarding other veterans educational programs, contact the Office of the Registrar at 713-348-4999 or registrar@rice.edu.

**APPLICATION FOR GRADUATION**

All students must complete and submit in a timely manner an Application for Graduation Form available in the Office of the Registrar. This form is required for all students who plan to complete their degree requirements at the end of the fall or spring semester.

**SUMMER SCHOOL FOR COLLEGE STUDENTS**

Administered by the Susanne M. Glasscock School of Continuing Studies, Rice Summer School for College Students offers courses for credit to Rice students, visiting undergraduates, graduate students, and Class III students (see Graduate Student section, pages 24–25). Two summer sessions are offered: in May and in June–July. See Academic Calendar. Taking six to eight semester hours in one session is considered a full load. Limited financial aid may be available for Rice students only.

Admission is automatic for any Rice undergraduate or graduate student in good standing. Students should follow the same registration procedures required for the regular academic year, observing the deadlines listed on the summer school Web site at gscs.rice.edu/summercredit/.

Visiting and Class III students in good standing must apply for admission to summer school. The application form can be found at gscs.rice.edu/summercredit/. The completed application form must be sent to the Glasscock School of Continuing Studies (attn: Summer School) along with the application fee and tuition deposit. Additionally, official transcripts including spring semester grades and a completed Dean of Students Recommendation form must be mailed directly from their universities and colleges to the Glasscock School of Continuing Studies (attn: Summer School). Applicants will be notified as soon as possible of acceptance or nonacceptance. The remaining tuition is due in full at registration before the beginning of classes. Acceptance in Rice Summer School for College Students carries no implications for regular admission to Rice.

Auditors of summer school courses, who are considered visiting students, must pay full tuition and fees and submit an application as well as a completed Dean of Students Recommendation form mailed directly from their universities and colleges to the Glasscock School of Continuing Studies (attn: Summer School). Applicants will be notified as soon as possible of acceptance or nonacceptance.

It is essential that students follow the deadlines listed on the summer school Web site at gscs.rice.edu/summercredit/. Students may apply after the deadline (but before the start of classes) by paying a late fee. Courses that do not generate enrollments sufficient to cover their costs may be canceled.
For more information, including tuition and registration information, students should contact the Glasscock School of Continuing Studies at 713-348-4803, via e-mail at summercredit@rice.edu, or online at gscs.rice.edu/summercredit/.

ADMISSION OF NEW STUDENTS

Dating back to the founding of Rice University, our first president, Edgar Odell Lovett, mandated that we aspire to be a world-class university of the highest standing. Dr. Lovett challenged us “to assign no upper limit to our educational endeavor.” He envisioned students and faculty as a community of scholars, their minds exercised by spirited discourse (John Boles, A University So Conceived: A Brief History of Rice, p. 17, third rev. ed. 2006). Therefore, as an integral part of the university’s mission, we seek a broadly diverse student body where educational diversity increases the intellectual vitality of education, scholarship, service, and communal life at Rice. We seek students, both undergraduate and graduate, of keen intellect and diverse backgrounds who not only show potential for success at Rice, but also who will contribute to the educational environment of those around them. Rice determines which group of applicants, considered individually and collectively, will take fullest advantage of what we have to offer, contribute most to the educational process at Rice, and be most successful in their chosen fields and in society in general. Our evaluation process employs many different means to identify these qualities in applicants. History shows that no single gauge can adequately predict a student’s preparedness for a successful career at Rice. For example, we are cautious in the use of standardized test scores to assess student preparedness and potential. An applicant is considered in competition with all other applicants. In making a decision to admit or award financial aid, we are careful not to ascribe too much value to any single metric, such as rank in class, grade point average, the SAT/ACT, or Graduate Record Exam.

We use a broader perspective that includes such qualitative factors as the overall strength and competitive ranking of a student’s prior institution, the rigor of his or her particular course of study, letters of recommendation, essays, responses to application questions, and (where required) auditions and portfolios. Taken together with a student’s academic record and test scores, these additional factors provide a sound basis to begin assessing the applicant’s potential on all levels.

Beyond indicators of academic competence, we look for other qualities among applicants, such as creativity, motivation, artistic talent, and leadership potential. We believe that students who possess these attributes in combination with strong academic potential will contribute to, and benefit from, a more vibrant, diverse educational atmosphere. Through their contributions and interactions with others, students will enrich the educational experience of all faculty and students. These qualities are not revealed in numerical measurements, but are manifest in the breadth of interests and the balance of activities in their lives.

Rice University strives to create on its campus a rich learning environment in which all students will meet individuals whose interests, talents, life experiences, beliefs, and world views differ significantly from their own. We believe that an educated person is one who is at home in many different environments, at ease among people from many different cultures, and willing to test his or her views against those of others. Moreover, we recognize that in this or any university, learning about the world we live in is not by any means limited to the
structured interaction between faculty and students in the classroom, but also occurs through informal dialogue between students outside the classroom. To encourage our students’ fullest possible exposure to the widest possible set of experiences, Rice seeks through its admission policies to bring bright and promising students to the university from a range of socioeconomic, cultural, geographic, and other backgrounds. We consider an applicant’s race or ethnicity as a factor in the admission process and believe that racial and ethnic diversity is an important element of overall educational diversity. Though race or ethnicity is never the defining factor in an application or admission decision, we do seek to enroll students from underrepresented groups in sufficient and meaningful numbers as to prevent their isolation and allow their diverse voices to be heard. We also seek students whose parents did not attend college as well as students from families with a well-established history of college-level education. Rice places a premium on recruitment of students, regardless of their races or ethnicities, who have distinguished themselves through initiatives that build bridges between different cultural, racial, and ethnic groups. In so doing, we endeavor to craft a residential community that fosters creative, intercultural interactions among students, a place where prejudices of all sorts are confronted squarely and dispelled.

In assessing how well an applicant can contribute to enlivening the learning environment at Rice, we also try to determine the relative challenges that he or she may have faced. For economically disadvantaged students, this may mean achieving a high level of scholastic distinction while holding down a job in high school. For a first generation college student, it might mean achieving high standards for academic success within an environment relatively indifferent to intellectual attainment. Or it might mean overcoming a disability to excel in sports, music, or forensics. For students who do not have particular disadvantages, we also look at whether they chose a more challenging road than the normal path through high school. This might mean an especially strenuous course of study, a prolonged, in-depth engagement in a school project, or a particularly creative and wide-ranging set of extracurricular activities.

Rice does not view offers of admission as entitlements based on grades and test scores. Our admission process combines an examination of academic ability with a flexible assessment of an applicant’s talents, experiences, and potential, including potential diversity contributions; it precludes any quick formula for admitting a given applicant or for giving preference to one particular set of qualifications without reference to the class as a whole. Rice is a highly selective institution and receives many more applications from viable candidates than it has available spaces. An inevitable consequence of Rice’s approach is that some highly accomplished students will not be admitted. However, by selecting a wide range of matriculants of all types, the admission process seeks to enrich the learning environment at Rice and thus improve the quality of a Rice education for all students.

Due to the nature of the Rice education, Rice enrolls undergraduate degree candidates on a full-time basis only. **First-year applicants, architecture applicants, and international students may apply for the fall semester only.** Other applicants may apply to enter either the fall or spring semester.

Applicants are selected on a competitive basis in six academic divisions: architecture, engineering, humanities, music, natural sciences, and social sciences. Candidates should give careful consideration to the category under which they wish to be considered. However, once enrolled, students are able to move freely among most divisions after consultation with their advisors.
Music students must pursue the music program for at least the first year before changing divisions. The schools of music and architecture maintain limited enrollments; all majors are subject to faculty approval.

Those offered admission are expected to complete the remainder of their high school courses with the same superior performance that led to their admission.

**First-Year Applicants**

The areas of focus generally used in evaluation of first-year candidates for admission include: scholastic record as reflected by the courses chosen and the quality of academic performance, recommendations from high school, the application presentation of personal information, special talents, essays, and standardized testing (the SAT and two SAT subject tests, or the ACT with the writing test).

**The High School Record**—Students must complete at least 16 college preparatory units as follows:

- English 4
- Laboratory science (e.g., biology, chemistry, physics) 2
- Social studies 2
- A foreign language 2
- Mathematics 3
- Additional credits in any of the categories above 3

The natural science and engineering divisions require trigonometry (precalculus) or other advanced mathematics courses and both chemistry and physics. Students may substitute a second year of chemistry or biology for physics.

Students admitted with academic deficiencies will be asked to complete the required work by taking high school or college-level courses during the summer before enrollment at Rice.

Note: Because of the admission competition to enter Rice, successful applicants generally have taken 20 or more college preparatory courses in high school, many at the college level. Therefore, only those students who have more than 20 college preparatory courses may have the Office of the Registrar consider for Rice credit their college courses taken in high school.

**Transfer of Coursework Taken During High School**—College-level courses taken during high school years may be considered for credit at Rice University on receipt of the following documentation:

1. An official transcript of all college courses sent directly from the college(s) attended. The college courses should be part of the normal curriculum of the college and taught by regular members of the college faculty.

2. Official notification by letter from the high school principal or guidance counselor that the credit earned was not used to meet high school diploma requirements. College-level courses that appear on the high school transcript will not yield credits at Rice.

**Recommendations**—Candidates must submit evaluations from their guidance counselor and one teacher. The necessary forms are included in the Common Application at www.commonapp.org.

**The Application**—Rice is an exclusive user of the Common Application. The application and the Rice Supplement provide the committee with important information on the student’s background and gives the applicant an opportunity to provide statements on his or her interests, experiences, and goals. The application fee is $65. Students for whom this fee creates a hardship may
apply for a waiver. Freshman applicants should provide proof of a fee waiver for the SAT or ACT test or eligibility for the school lunch program. In any case, a letter from the student’s high school counselor is required. Financial stress created by application fees to other institutions is not considered a valid reason to grant a fee waiver.

**Standardized Testing**—All freshmen applicants must take either the SAT and two SAT subject tests in fields related to their proposed area of study, or the ACT with the writing test. These exams are administered by the College Board and the American College Testing Program. The applicant is responsible for arranging to take the tests, and official score reports must be submitted before the student can be considered for admission. The College Board code for Rice is 6609. The ACT code is 4152.

Rice uses the highest scores from any sitting on the SAT in order to consider each applicant’s most positive test results. Recognizing that this policy could disadvantage those students who cannot afford repeated testing or expensive test prep coaching, we believe a comprehensive testing history provides us with the appropriate context required for making a fair judgment of what the test scores mean in a holistic admission process. Therefore, we require all applicants submitting the SAT to submit all scores to Rice. The ACT does not condone splitting and combining subscores from multiple sittings, therefore, it is Rice’s policy to use the highest ACT composite score in admission consideration.

**Personal Interview**—Although a personal interview is not a requirement, we recommend an interview for first-year applicants as an excellent opportunity to discuss the applicant’s interests, needs, and questions. On-campus interviews are conducted by the admission staff and a select group of Rice senior students. Off-campus interviews are conducted throughout the United States and abroad by Rice alumni. The Committee on Admission makes no distinction between on-campus and off-campus interviews.

**Music Audition**—Candidates to the Shepherd School of Music must arrange for an audition with a member of the music faculty.

**Architecture Portfolio and Interview**—Architecture applicants must submit a portfolio. An on-campus interview with a faculty member from the School of Architecture is strongly recommended.

**Decision Plans**

**Early Decision Plan**—Early Decision is a binding decision plan designed for students who have selected Rice as their first choice. Students may initiate applications to other colleges under nonbinding plans but must withdraw those applications if admitted to Rice.

Early Decision applicants must complete the required standardized testing prior to or by the November testing dates in their senior year. All other materials should be submitted by November 1. Admission notices will be mailed by mid December. The committee will admit, defer, or deny Early Decision applicants. Deferred applicants are considered with the Regular Decision pool.

It is important to note that, if admitted under Early Decision, a candidate must withdraw all other college applications, may not submit any additional applications after accepting the offer, and must accept Rice’s offer of admission by submitting a $300 nonrefundable deposit by January 2. An additional $100 housing deposit is required of those desiring on-campus accommodations.
Those accepted under Early Decision who demonstrate financial aid eligibility will receive a financial aid package in the admission packet. To apply for need-based aid, Early Decision applicants must submit the College Scholarship Service Profile and the student and parent 2008 income tax and W-2 forms by November 15, 2009. Register for the CSS PROFILE at www.collegeboard.com. Students will complete the PROFILE online. The PROFILE number for Rice is 6609.

**Regular Decision Plan**—Students who apply Regular Decision must submit their materials by January 2 to receive notification by April 1. Candidates who miss the deadline must do so in full knowledge that they are in a less competitive position. Regular Decision applicants must complete their standardized tests by December of their senior year of high school.

Regular Decision applicants who are offered admission should submit a $300 enrollment deposit by May 1 to reserve their places in the incoming class. Those who desire a room on campus must pay an additional $100 deposit. After May 1, deposits are not refundable.

**Accelerated Students**

Rice University will accept applications from students who are completing high school in less than four years. It is important to note that these students will compete with other candidates who will be completing four years of high school. Therefore, it is the candidate’s responsibility to demonstrate that he or she has exhausted all college preparatory course work at his or her school. Further, because of the residential focus and commitment to student self-governance at Rice, candidates must also demonstrate the maturity and personal development that would allow them to participate fully and responsibly in campus life. Because of the unique circumstances surrounding the accelerated student, it is strongly recommended that these candidates have an on-campus interview before the application deadline.

**Home-Schooled Applicants**

The Committee on Admission and Financial Aid recognizes that each home-schooled applicant is in a unique educational program. To ensure that our evaluation process is fully informed, each home-schooled applicant is encouraged to provide clear, detailed documentation of his or her curriculum of study, assessment tools, and learning experiences. The Common Application Home School Supplement is required. Also, Rice requires one Teacher Evaluation and a School Report from all applicants. For home-schooled applicants, either the School Report or the Teacher Evaluation must be from someone not related to the student.

**Transfer Students**

Students with superior records from two-year or four-year colleges or universities may apply as transfer candidates. Applicants for transfer admission must file the following with the Office of Admission:

- The Transfer Common Application and the Rice Supplement
- Official transcripts of all high school and college work completed to date, as well as courses in progress
- Professional evaluation of transcripts from non-U.S. institutions. Recommended evaluators are World Education Services (www.wes.org) and Education Credential Evaluators (www.ece.org).
INFORMATION FOR UNDERGRADUATE STUDENTS

- Two faculty recommendations
- A recommendation from the dean of students
- SAT or ACT scores
- A $65 application fee

Applications with the appropriate documents must be submitted by March 15 for fall term admission and October 15 for spring term admission. Notification of the admission decision is mailed by May 15 and December 15, respectively. The criteria used in evaluating transfer applications are similar to those applied to applicants for the first-year class, except that special emphasis is given to performance at the college level. Because of the highly competitive nature of transfer admission, it is recommended that applicants have a minimum 3.20 (4.00 scale) grade point average on all college work. The SAT or ACT must be taken by March 15 for fall application and October 15 for spring application. The SAT Subject Tests are not required.

**International transfer students are eligible to apply to the fall semester only.**

Students for whom the $65 application fee creates a hardship may apply for a waiver. Transfer applicants must send a copy of the Student Aid Report that they receive after completing the Free Application for Federal Student Aid (FAFSA) along with a request for a fee waiver to the Office of Admission. Financial stress created by application fees to other institutions is not considered a valid reason to grant a fee waiver.

Transfer students must be registered in residence at Rice for at least four full semesters during the fall or spring terms and must complete no fewer than 60 semester hours before earning a Rice degree.

**Advanced Placement/International Baccalaureate/International Certificate Programs**

**Advanced Placement**—Students who score a four or five on the applicable Advanced Placement College Board examinations taken before matriculation at Rice are given university credit for the corresponding Rice course(s).

**International Baccalaureate**—Students who complete the International Baccalaureate diploma and receive a score of six or seven on a higher-level IB exam will receive course credit for the corresponding Rice course(s).

**International Certificate Programs**—Students who have completed various international certificate programs may receive course credit for corresponding Rice courses; however, each student's documentation will be reviewed individually and on a case-by-case basis. The General Certificate of Education A-Level (United Kingdom), the Abitur (Germany), and the Baccalaureate (France) are eligible for review.

**Other Students**

*Please note that financial assistance is not available for visiting, Class III, second degree, dual enrollment, or auditing students.*

**Visiting Students**—Students who wish to spend a semester or a year at Rice taking courses for credit to be applied toward their undergraduate degree at another school may apply for admission as visiting students through the Office of Admission. The student's application should be accompanied by the $65 application fee, an official high school transcript, an official transcript of college work to date, an SAT or ACT score, and recommendations from the dean of students and a faculty member who has taught the student within the past academic year. Visiting student applications are available on the Admission Web
Visiting students are assigned membership to one of the residential colleges during their stay and are charged the same fees as other undergraduates. In a few classes where enrollment is limited because of space or other considerations, candidates for Rice degrees have priority over visiting students for registration.

**Visiting students may apply to transfer to Rice only after having left Rice for at least one semester.**

**Class III Students**—Students with Class III standing at Rice have an undergraduate or graduate degree from an accredited college or university and are taking courses at Rice for credit but not in a specific degree program. Students interested in this program should contact the Office of Graduate and Postdoctoral Studies.

**Second-Degree Students**—An individual who has a bachelor’s degree from another institution and desires another degree in a different area of focus may apply as a second-degree student on a space-available basis. Students may only pursue a second degree that is significantly different from their first degree. The application, a $65 application fee, official transcripts of all undergraduate and graduate work, a final high school transcript, two faculty letters of recommendation and a recommendation from the dean of students from the most recent college attended, and standardized test scores (the SAT or ACT) are required to complete an application file. The deadline for fall semester admission is March 15, and the deadline for spring is October 15. Second Degree applications are available on the admission Web site.

Second degree applicants with a prior bachelor’s degree from Rice should apply to the Office of the Registrar. The application should include a written statement specifying the proposed major and course program for the second degree, a supporting letter from the chair of the major department, and an explanation of the student’s reasons for seeking a second degree.

**Dual Enrollment Students**—Accelerated high school juniors and seniors who have taken all the courses in a given discipline available to them in high school may request admission to Rice for the purpose of taking courses as dual enrollment students. This enrollment is restricted to a maximum of two courses per semester per student. The written application, application fee of $65, high school transcript, a teacher and a counselor recommendation from the applicant’s high school, and an SAT or ACT score should be sent to the Office of Admission by June 1 for the fall semester or by December 1 for the spring semester. Home-schooled students must demonstrate that they have exhausted all other community resources before applying for dual enrollment at Rice. Dual Enrollment applications are available on the admission Web site.

Tuition for new students is $1,310 per semester hour plus a $135 nonrefundable registration fee. Tuition for returning dual enrollment students would be the rate (plus increases) at which they first took dual enrollment courses at Rice. These charges are for the 2009–10 school year and are subject to change in subsequent years. Financial assistance is not available for this program.

**Auditors**—Any interested person, including currently enrolled students, may audit one or more courses at Rice by securing permission of the instructor and by registering as an auditor with the Office of the Registrar. The university grants no academic credit for such work. The audited course will appear on the student’s transcript with the designation AUD. Currently enrolled students
may audit courses without charge. Rice alumni are charged a fee of $340 per course per semester. All others are charged $660 per course per semester for the privilege of auditing. Request to audit a class or to change from audit to credit or vice versa must be done by the end of the second week of the semester.

TUITION, FEES, AND EXPENSES

Charges for tuition, fees, and room and board are billed to students each semester. Students may pay the charges in full by the due date or in installments over the course of the semester. The fall semester due date is August 1 for first-year and mid-August for all others, and the spring semester due date is the first week of January. The following costs apply to undergraduates in the 2009–10 school year:

| Tuition | Annual | Semester | Hour
|---------|--------|----------|------
| Entering first-year and transfer students $31,430.00 | $15,715.00 | $1,310.00
| Students matriculating in 2008–09 | 31,430.00 | 15,715.00 | 1,310.00 |
| Students matriculating in 2007–08 | 31,430.00 | 15,715.00 | 1,310.00 |
| Students matriculating in 2006–07 | 30,920.00 | 15,460.00 | 1,290.00 |
| Students matriculating in 2005–06 | 28,700.00 | 14,350.00 | 1,196.00 |

1 By special permission only

| Required Fees | Fall | Spring | Annual
|---------------|------|--------|-------
| Student activities² | $48.50 | $48.50 | $97.00 |
| Student Rec Center Fee | 45.00 | 45.00 | 90.00 |
| Health service | 220.00 | 220.00 | 440.00 |
| Intl. Medical Emergency & Repatriation Fee | 10.00 | 10.00 | 20.00 |
| Total Fees | $323.50 | $323.50 | $647.00 |

²Fifth-year students in professional degree programs and students working toward a second bachelor's degree pay a reduced student activities fee of $6.85 per semester, which covers the Student Association, Student Organizations Activity, University Court, and Honor Council portions of the activity fee.

<table>
<thead>
<tr>
<th>Orientation Week Fees</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>O-Week Room and Board–Freshman</td>
<td>$270.00</td>
</tr>
<tr>
<td>O-Week Activity Fee–Freshman</td>
<td>205.00</td>
</tr>
<tr>
<td>iPREP Fee (incoming international undergraduate and exchange students)</td>
<td>100.00</td>
</tr>
</tbody>
</table>

| Room and Board | Annual | Semester
|----------------|--------|--------
| Room $7,510.00 | $3,755.00 |
| Board 3,720.00 | 1,860.00 |
| Telecommunication Fee | 48.00 | 24.00 |
| Off-Campus Board–Plan 05 | 1,400.00 | 700.00 |

REFUND OF TUITION AND FEES

Students who withdraw during the first two weeks of the semester are not charged tuition or fees for that semester. Students who withdraw during the third week must pay 30 percent of the semester's tuition, receiving a 70 percent refund. The amount of the refund drops by 10 percent at the beginning of each successive week that passes before withdrawal until the ninth week, after
which no refund is made. Federal regulations require a refund calculation for all students receiving Title IV funds. The length of time during which a refund must be calculated is up to 60 percent of the payment period (semester). If a student withdraws on or before the 60 percent point in time, a portion of the Title IV funds awarded to a student (Pell Grant, Federal SEOG, Federal Perkins Loan, Federal Subsidized and Unsubsidized loans, Federal PLUS Loans, the Texas LEAP Grant) must be returned, according to the provisions of the Higher Education Act as amended. The calculation of the return of these funds may result in the student owing a balance to the university and/or the Department of Education.

For students withdrawing after the second week of classes in a semester, fees or special charges are not refunded. Similarly, students withdrawing or taking leaves of absence in the spring semester do not receive a partial refund of fees paid for the full year. Students withdrawing at any time forfeit the $300 enrollment deposit they paid as incoming students.

Students who receive approval to enroll with a course load of fewer than 12 hours and do so within the first two weeks of the semester will be charged at the per hour rate plus a part-time registration fee. There are no refunds for part-time enrollment after the first two weeks of the semester.

Students unable to resolve with the cashier's office any request for special consideration in connection with waivers, refunds, or adjusted payments on tuition, fees, and other charges should forward their appeals to the dean of undergraduates. Exceptions are granted by the dean of undergraduates only under extraordinary circumstances.

**Living Expenses**

Residence fees cover dining hall costs and residence maintenance. They are established each year as needs dictate. For 2009–10, the annual room and board charge for residence in a residential college is $11,230. This charge includes the room and all the meals eaten during the year.

**Housing**—About 73 percent of Rice undergraduates live in the on-campus residential colleges. Information about the residential colleges and room application forms accompany the notice of admission sent to each new undergraduate. Room reservations cannot be made before notification of admission. Further information on housing in the residential colleges is available from the Office of the Dean of Undergraduates, and information on off-campus housing is available from the Student Center Administration Office.

When they receive their residential college room assignments for the academic year to follow, students must sign a housing agreement electronically by accessing their Esther account online. To reserve their space, current students must electronically sign a housing agreement by the date established in their respective colleges but no later than April 15. New students must make a $100 deposit before May 1. These nonrefundable deposits are applied to the following semester's room and board charges.

**Board**—Meals are served cafeteria-style. The colleges provide three meals per day Monday through Friday, breakfast and lunch on Saturday, and lunch and dinner on Sunday. Meals are not served during the Thanksgiving holiday, at the midyear break, or over the spring midterm recess. More information is available from the residential dining website (food.rice.edu).

**Payments and Refunds**—Students may pay their residence fee in installments. The exact amounts and due dates appear on the statement mailed from the
Cashier’s Office. Students moving out of the college for any reason receive a refund (or a credit) of the reduced balance of room and board charges but must still pay a termination processing fee. Possible exceptions such as academic suspension, Rice-sponsored study abroad, and family emergencies are treated on a case-by-case basis.

**Special Charges**

The following charges are separate from the regular fees. For charges because of late registration or course changes made after the deadlines, see Registration (pages 10–11).

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preceptorship per semester</td>
<td>$240</td>
</tr>
<tr>
<td>Internship per semester</td>
<td>$240</td>
</tr>
<tr>
<td>Study abroad fee per semester</td>
<td>$300</td>
</tr>
<tr>
<td>Study abroad fee for summer</td>
<td>$150</td>
</tr>
<tr>
<td>Late payment penalty</td>
<td>$140</td>
</tr>
<tr>
<td>Undergraduate application fee</td>
<td>$65</td>
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<tr>
<td>Part-time registration fee</td>
<td>$135</td>
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<tr>
<td>Orientation Week room and board (coordinators)</td>
<td>$185</td>
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<tr>
<td>Late registration fee 1</td>
<td>$75</td>
</tr>
<tr>
<td>Late registration fee 2</td>
<td>$125</td>
</tr>
<tr>
<td>Deferred payment plan late fee</td>
<td>$35</td>
</tr>
<tr>
<td>College withdrawal–suspension</td>
<td>$150</td>
</tr>
<tr>
<td>College withdrawal–breaking of lease</td>
<td>$750</td>
</tr>
<tr>
<td>Diploma fee: sheepskin</td>
<td>$125</td>
</tr>
<tr>
<td>Diploma fee: parchment</td>
<td>$50</td>
</tr>
<tr>
<td>Diploma fee: facsimile</td>
<td>$20</td>
</tr>
<tr>
<td>Diploma mailing fee: domestic</td>
<td>$30</td>
</tr>
<tr>
<td>Diploma mailing fee: air mail</td>
<td>$50</td>
</tr>
<tr>
<td>Transcript fee</td>
<td>$5</td>
</tr>
<tr>
<td>Letter of standing</td>
<td>$5</td>
</tr>
<tr>
<td>Reinstatement fee: Undergrads per year over two years</td>
<td>$50</td>
</tr>
<tr>
<td>Replacement ID</td>
<td>$10</td>
</tr>
<tr>
<td>Readmission fee after withdrawal for nonpayment</td>
<td>$300</td>
</tr>
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</table>

Recreation Center Membership Fees

<table>
<thead>
<tr>
<th></th>
<th>Spring</th>
<th>Summer</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty/Staff</td>
<td>$288</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student: Undergraduate</td>
<td>$30</td>
<td>$90*</td>
<td>$120</td>
</tr>
<tr>
<td>Student: Graduate</td>
<td>$45</td>
<td>$30</td>
<td>$120</td>
</tr>
</tbody>
</table>

*Student nine-month fee for membership paid with tuition. Summer optional.

**Health Insurance**

All Rice students must have health insurance. Students may purchase insurance for the 2009–10 school year through the university program developed for Rice students at a yearly premium of $1,486. Coverage is effective from 12:01 AM, August 15, 2009, until 12:01 AM, August 15, 2010. Dependent coverage also is available. A description of the policy, application form, and waiver form can be found on the Web at studenthealthinsurance.rice.edu. Students should submit either the application or waiver by August 15 each year.
**Education Certification Program Fees**

Students enrolling in the student teaching apprenticeship or internship plans must pay a $240 registration fee for each semester. An additional $25 fee (paid to the School of Continuing Studies) is due for each summer school session.

**Delinquent Accounts**

Students in arrears on their financial obligation to Rice as of the last day to add courses for any semester may be withdrawn. The university will not issue certificates of attendance, diplomas, or transcripts at any time for a student whose account is in arrears.

Students who have not made satisfactory arrangements with the cashier for payment of current charges or who have moved on campus without a proper room contract may be withdrawn from the university.

**Transcripts**

Transcripts are issued on written request to the Office of the Registrar. The Office of the Registrar does not issue transcripts without the consent of the individual. The charge of $5 for each copy is payable in advance. Those requesting transcripts by mail should include payment with the request.

**Financial Aid**

The financial aid programs at Rice provide assistance to meet demonstrated need for university attendance for all admitted students. Through grants, endowments, low-interest loans, campus work opportunities, or a combination of these programs, Rice makes every effort to provide students and families assistance to meet their educational expenses. The financial aid program receives funding from many sources. Rice uses contributions from alumni and friends to establish and maintain scholarships and loan funds. Federal and state grant, work, and loan programs also provide funds. Awards are based primarily on financial need and a computed Expected Family Contribution (EFC), although there also are attractive loan opportunities for students and families who demonstrate no need.

The university determines need for first-time students by having them complete the College Scholarship Service (CSS) PROFILE. Students register for CSS PROFILE by visiting its website at www.collegeboard.com. Students will complete the PROFILE online. The PROFILE number for Rice is 6609. First-time students also complete the Free Application for Federal Student Aid (FAFSA). The FAFSA school code for Rice is 003604. Student and parent income tax document, including W-2 forms, are required to be submitted to The College Board using Institutional Documentation (IDOC) Service.

The university determines need for continuing students by having them complete the FAFSA and the PROFILE; continuing students also submit student and parent income tax and W-2 forms to The College Board.

“Need” is the amount required to meet the difference between each student’s basic educational expenses and his or her family’s resources. Parents are expected to contribute according to their financial means, taking into account income, assets, home equity, number of dependents, and other relevant factors. Students are expected to contribute as well from their own assets and earnings, including appropriate borrowing against future earnings.

The brochure *Financing Your Education* explains the assistance programs in detail. Copies are available from the Office of Admission.
**Need-Based Application Process**

Rice University is a need-blind school. Applicants are admitted to the university regardless of their family’s ability to pay for college. Rice will meet 100% of demonstrated financial need as determined by university calculations.

Rice considers applicants for all appropriate assistance administered by the university, including grants, scholarships, loans, and work. Students receive notification of an offer after their financial aid files are complete. The Office of Financial Aid provides financial assistance only for coursework sponsored through Rice University.

To apply for financial assistance, first-time students (including Early Decision students) must submit the following:

- CSS PROFILE, priority date March 1
- Free Application for Federal Student Aid (FAFSA), priority date March 1
- Student and parent income tax and W-2 forms, priority date March 1

**Continuing students must submit the following:**

- FAFSA, priority date April 15
- CSS PROFILE, priority date April 15
- Student and parent income tax and W-2 forms, priority date April 15

**Decision**

Financial aid offers are made annually. Award amounts are specified in the financial aid offer letter. Because financial circumstances change from year to year, Rice conducts an annual review of need and offers aid accordingly. For this reason, continuing students must complete CSS PROFILE, file the FAFSA, and submit parent and student tax documents every year that they seek assistance.

The university, from time to time, may adjust its methods of computing financial need or its policies regarding the types of financial assistance that it offers so as to meet the financial needs of the largest possible number of students. Therefore, the amount and type of financial aid may change from year to year, even when the student’s financial situation appears to remain relatively stable.

**Types of Financial Aid and Assistance**

**Need-Based Scholarships/Grants**—Various need-based scholarships and grants are awarded to assist students with demonstrated need.

**Merit Scholarships**—Merit Scholarships are offered through the Office of Admission to incoming students. Merit scholarships may only be used for coursework sponsored by Rice University. Should a student with a merit award graduate early, unexpended merit funds will not be granted to the student.

**Student Loan Funds**—To assist students and parents with educational financing, the Office of Student Financial Services participates in the following programs:

- **Federal Stafford Student Loans**—These are low-interest loans made to students attending school on at least a half-time basis. Subsidized Stafford loans require need-based financial aid eligibility, but unsubsidized Stafford loans are available to all students.

- **Federal PLUS Loan**—The PLUS loan is a low-interest loan to parents or legal guardians of dependent undergraduate students. Eligibility is not based on demonstrated financial need.
• **Federal Perkins Loan Program**—These are low-interest loans made to students attending school on at least a half-time basis and who demonstrate high need.

• **Private Education Loans**—These nonfederal loans are available to students attending school on at least a half-time basis. Eligibility is not based on financial need. These are credit-based loans and may require a co-signer.

A few endowments for student loans have been established at Rice primarily as memorial tributes. These funds exist separately from the normal financial aid program. Rice uses them to make small emergency loans to students experiencing unexpected financial problems or showing additional need beyond regular eligibility.

All requests for these loans must be submitted to the Office of Financial Aid.

**Student Employment Programs**—Opportunities for employment are available to students, either on or off campus, during the academic year. Students are eligible to work under either the Federal Work-Study Program or the Rice University Work Program. Students interested in employment should access the Office of Financial Aid webpage at www.financialaid.rice.edu.

**Deferred Payment Plan**—Rice offers a deferred payment plan to enable families to finance students' educational costs. This plan divides each semester's charge over four installments. Details are available to eligible students each semester at the time of billing. Students arrange for deferred payment through the Cashier's Office.

**Summer Aid**—Students who have not exceeded 10 semesters at Rice may be eligible to apply for limited financial aid for the summer terms.

**Financial Aid Eligibility**

Undergraduate students are eligible to apply for need-based Rice sponsored and federal/state/private aid during the first eight semesters at Rice; for transfer students the number of semesters is prorated based on the number of hours transferred. If a student is enrolled beyond eight semesters, the student may apply for federal/state/private aid for an additional two semesters. (Architecture students may apply for Rice sponsored aid for two semesters following their preceptorship to complete the architecture degree.) If a student attends part time during a semester or withdraws during a term, the semester is counted toward the number of semesters aid is available.

**Loan Counseling**

Students who are recipients of federal student loans will be required to complete online loan entrance counseling before funds will be credited to student accounts. Students also will be required to complete online exit counseling at the completion of a program of study at Rice. Failure to complete online loan exit counseling will result in a transcript hold.

**Satisfactory Academic Progress**

The Higher Education Act of 1965, as amended by Congress, mandates that institutions of higher education require minimum standards of “satisfactory academic progress” for students to be eligible to receive financial aid.

To remain in good standing, an undergraduate student must meet the following qualitative and quantitative standards:

Qualitative—A student must earn a minimum term GPA of 1.67 for each year enrolled at Rice University.
Quantitative—By the end of each academic year, a student must have earned a minimum of 24 credits.

If a student fails to meet either standard by the end of the academic year, the student will be placed on Financial Aid Suspension and will not be eligible for aid in the subsequent term. The student can regain eligibility by completing a subsequent term at their own expense that includes 12 hours and maintaining a GPA of 1.67.

Appeal—Students are allowed to appeal their Financial Aid Suspension. A letter with supporting documentation must be submitted to the Office of Financial Aid prior to the beginning of the subsequent term. The Office of Financial Aid will review the appeals on a case-by-case basis.

Financial Aid After Suspension—Students who have been suspended by the university for academic reasons need to be aware that if they are readmitted by the Committee on Examinations and Standing they may not be eligible for financial aid based on their prior academic performance. Students who are petitioning for readmission are advised to contact the Office of Financial Aid to determine their aid eligibility.

Return of Title IV Funds

Students who receive federal funds as part of their aid packages and do not complete the academic term may be subject to returning a portion of those funds. Contact the Office of Financial Aid for information about “Return of Title IV Funds” policies and procedures.

Honor Societies

Honor societies at Rice include the following:

- **Phi Lambda Upsilon**—national honorary chemical society promoting high scholarship and original investigation in all branches of pure and applied chemistry (Rice chapter: 1926)

- **Phi Beta Kappa**—founded in 1776 at the College of William and Mary to recognize intellectual achievement and the love of learning among students in the liberal arts and sciences (Rice chapter: March 1, 1929)

- **Pi Delta Phi**—organized to interest French students in competing for high standing in scholarship (Theta chapter at Rice: May 1930)

- **Society of Sigma Xi**—for the promotion of research in science (Beta of Texas chapter at Rice: March 23, 1938)

- **Tau Beta Pi Association**—organized to interest engineering students in competing for high standing in scholarship (Gamma of Texas chapter at Rice: December 18, 1940)

- **Delta Phi Alpha**—to promote an interest in the German language and literature (Gamma Xi chapter at Rice: April 1949)

- **Sigma Delta Pi**—to promote an interest in the Spanish language and literature (Rice chapter: May 14, 1953)

- **Tau Sigma Delta**—national honor society in architecture and applied arts (Tau chapter at Rice: May 7, 1961)

- **Eta Kappa Nu**—founded in 1904 at the University of Illinois for electrical engineering students to stimulate and reward scholarship as well as assist and encourage its members to grow professionally throughout their lives (Rice chapter: January 1981)

- **Omicron Delta Epsilon**—to promote study in economics (Rice chapter: 1981)
Psi Chi—founded in 1929 at Yale University to encourage, stimulate, and maintain excellence in scholarship and to advance the science of psychology (Rice chapter: April 23, 1990)

Chi Epsilon—the Civil Engineering Honor Society. It serves to recognize students of high scholarship, character, practicality, and sociability. Students are inducted into the society once or twice annually and are selected from the pool of upper division level civil engineering students. (Rice chapter: 1995)

UNDERGRADUATE STUDENT LIFE

RESIDENTIAL COLLEGES

All undergraduate students at Rice, whether they live on campus or not, are members of one of 11 residential colleges. All colleges are coeducational. Each college has faculty masters who live in a house next to the college. Reporting to the dean of undergraduates, the masters have overall responsibility for all aspects of student life in the college, especially for encouraging broad cultural and intellectual interests and for promoting self-discipline and effective self-government within the college. Upon agreement, the students and masters invite other members of the Rice faculty to become resident and nonresident associates of the college. Faculty associates act as advisors to the students and participate in the various activities of the college. Colleges also have nonfaculty university associates and community associates drawn from various professions in the Houston area.

Each college exists as a self-governing group of students. The elected officers and representatives are responsible to the masters and to the college membership for:

• Directing the college’s cultural, social, and athletic activities
• Expenditure of college funds
• Maintaining order in the college

While uniformity among the colleges has never been sought and each college has developed its own particular interests and character, all seek to foster fellowship among their members and a mature sense of honor, responsibility, and sound judgment.

College Assignment—Each undergraduate, upon acceptance by the university, is designated a member of one of the colleges. Two students entering Rice for the first time may request assignment to the same college, but they may not designate which college. New students also may request membership in the same college as a close relative. Except for these cases, students have no individual choice of college.

Room and Board—College buildings include a dining hall and public rooms, which are available to both resident and nonresident members, and living quarters for resident students from all classes and all academic disciplines.

At present, Rice has room in its on-campus residential colleges for about 71 percent of its undergraduate students. Although most of the students who want to live in the colleges can be accommodated, demand usually exceeds the available number of rooms. The university makes every effort to provide housing in the colleges for all incoming first-year students who wish to live on campus, but space cannot be guaranteed. Continuing students draw for rooms according to the priority system established in each college. No student is required to live on campus; however, those members of the colleges who live off campus are encouraged to eat in their colleges and to participate in college activities.
The College Food Service provides all-you-care-to-eat meals with the purchase of the meal plan. All students living on campus must purchase a meal plan. It is recommended that students living off-campus also purchase a meal plan. Its other services include:

- Assistance with special diets prescribed by a physician
- Sack lunches for students who must miss a meal due to a job conflict
- Sick trays for students when requested by the Student Health Service
- Alternate menu entrées, whenever possible, to accommodate students’ religious practices

For more information on room and board, see pages 36–38.

**College Courses**—One of the colleges’ important activities is their sponsorship of courses and workshops open to all students. By expanding course offerings outside the traditional departments, college courses promote the academic involvement of the colleges while introducing students to interdisciplinary topics of particular interest.

Students propose college courses during the semester before they are offered. Once approved by the masters and faculty associates of the college and by the dean of undergraduates and the provost, these college courses are offered for academic credit on the same basis as departmental courses. The Office of the Registrar provides a list of college courses each semester during preliminary registration.

**Student Government**

All undergraduates are members of the Rice Student Association, which is governed through the Student Senate. The senate includes the president, two vice presidents, the secretary, the treasurer, the nine college presidents, and nine college senators.

Alleged violations of university or college rules are handled in accordance with the Code of Student Conduct. In most cases, original jurisdiction belongs to student courts. Students may appeal verdicts to the college masters or the assistant dean for student judicial programs, as appropriate, with a final appeal to the dean of undergraduates. The student-staffed Honor Council conducts hearings and trials for alleged offenses against the honor system (see General Information section, page 2). Rice retains ultimate authority in all matters of discipline and over all actions that affect its educational function or the safety and well-being of members of the university community.

**Award Presentations**—The Rice Student Association presents two coveted awards annually, one to a student and one to a faculty or staff member. The Rice Service Award, a memorial to Hugh Scott Cameron, first dean of students at Rice, is awarded to currently enrolled or former members of the association who have rendered distinguished service to the student body. The Mentor Recognition Award recognizes extraordinary service to the student body by a current member of the faculty or staff. A committee of faculty and students appointed by the association makes the selections.

**Office of Student Activities**

The Office of Student Activities, located in the Rice Memorial Center cloisters, oversees the activities of various campuswide student organizations. It also handles student requests for facilities and party permits, and it coordinates leadership development programs, including the annual leadership retreat and symposium.

Principal student organizations include the following:

- Rice Student Association, the student governing body
• Rice Program Council, which sponsors various events of current interest to the student body as well as social functions
• KTRU, the student-run radio station, operating 24 hours, seven days a week, on 91.7 FM
• Student publications (e.g., Rice Thresher, the student newspaper; Campanile, the yearbook; The Rice Undergraduate: The Annual Academic Review, a collection of peer-reviewed student papers; and University Blue, a literary and visual arts publication)

A large number of student organizations address special student interests, such as the Black Student Association, the Hispanic Association for Cultural Education at Rice, the Chinese Student Association, Rice Young Democrats, and Rice Republicans. There also are numerous clubs for such sports as sailing, rugby, lacrosse, volleyball, and soccer. Other special-interest groups include a premed society, forensic society, juggling club, and vegetarian club.

Many organizations are associated with special academic and professional disciplines, such as foreign language clubs, honor societies, and student affiliates of the American Chemical Society, the American Society of Civil Engineers, and the American Society of Mechanical Engineers.

The Rice Players, an extracurricular theater group of Rice students, faculty, and staff, present at least four productions each year and welcome participation by anyone interested in any aspect of theater production or management.

Rice students also maintain affiliations with a number of religious organizations. These include, but are not limited to, the Baptist Student Union, Canterbury Association, Catholic Student Association, Christian Science Organization, Hillel Society, Lutheran Student Association, Intervarsity Christian Fellowship, and the Wesley Foundation. Many of these clubs are assisted by local clergy who form the Joint Campus Ministry.

The Office of Student Organizations on the second floor of the Ley Student Center houses mailboxes for all student organizations. There is a student organization work space in the basement of the Rice Memorial Center that has office space, storage, and computers for student organization use.

**Community Involvement Center/Rice Student Volunteer Program**

Housed in the cloisters of the Rice Memorial Center, the Community Involvement Center works to develop a culture of service within the university by functioning as an advocate for community service, social responsibility, and an increased awareness of social and community issues. The center acts as a clearinghouse for resources and referrals involving local, national, and international community agencies and service opportunities. By making educational programs and information available, the center fosters a lifelong commitment to service among students, faculty, and staff. It also organizes alternative semester break service trips, volunteer fairs, beach cleanups, and other activities. The 10 student service organizations supported by the Community Involvement Center include Rice Habitat for Humanity, youth mentoring and tutoring programs, tutoring in English as a second language, Best Buddies, and the Rice Student Volunteer Program.

By heightening student awareness of community needs and generally raising social consciousness, the Rice Student Volunteer Program (RSVP) has organized volunteer projects for Rice students, faculty, and staff since 1985. The largest event of each semester is Outreach Day, a Saturday when approximately 500 students
volunteer with more than 30 nonprofit agencies throughout the Houston area, learning how to take thoughtful action to build a stronger, more just community. With an office in the cloisters of the Rice Memorial Center, RSVP invites each student’s involvement as an officer, a college representative, a committee member, a project organizer, or an interested participant in any RSVP event.

**INTERCOLLEGIATE SPEECH AND DEBATE**

Consistently ranked in the top 10 nationally, the George R. Brown Forensic Society sponsors competition in the categories of Individual Events, Lincoln–Douglas, and Parliamentary Debate. The society provides students with the chance to hone their public speaking skills and to qualify for competition both at the American Forensic Association National Individual Events Tournament and at the National Parliamentary Debate Championships. Recognizing the importance of developing strong communication skills, the society has an open admission policy, inviting students with little or no previous experience as well as those with extensive high school backgrounds to become members of one of the most successful teams at Rice. For more information on speech and debate, please go to www.ruf.rice.edu/~forensic/eventinfo/.
Information for Graduate Students
INTRODUCTION

Since Rice opened in 1912, the university has recognized the importance of graduate study and research as a principal means of advancing knowledge. The first doctor of philosophy degree was awarded in 1918 in mathematics. Since that time, graduate study has expanded to encompass the schools of architecture, engineering, humanities, management, music, natural sciences, and social sciences, as well as interdepartmental programs. Rice now enrolls approximately 2,200 graduate students and offers advanced degrees in 31 fields of study.

Graduate programs lead to either research or professional degrees. Research programs generally require the completion of a publishable thesis that represents an original and significant contribution to the particular field of study. Research degrees include the doctor of philosophy (PhD), doctor of architecture (DArch), master of arts (MA), and master of science (MS).

Professional programs provide advanced course work in several disciplines but do not generally include independent research. These programs lead to degrees in most of the major schools, including many engineering disciplines. (See the Graduate Degree Chart and the Interdepartmental and Cooperative Programs Chart on pages 5–10 for a complete listing of degrees offered.)

All degrees conferred by the university are awarded solely in recognition of educational attainments and not as warranty of future employment or admission to other programs of higher education.

For additional information on graduate programs and requirements, please go to graduate.rice.edu.

ADMISSION TO GRADUATE STUDY

Graduate study is open to a limited number of extremely well-qualified students with a substantial background in their proposed field of study (this usually, though not always, means an undergraduate major in the field). Each department determines whether applicants have enough preparation to enter a given program, emphasizing the quality of their preparation rather than the particular academic program they completed or the credits they earned.

Admittance to a Rice University graduate-degree program, with the exception of those in the School of Music, requires a baccalaureate degree or its equivalent as determined by the Office of Graduate and Postdoctoral Studies. For the Shepherd School of Music, the equivalent to the baccalaureate degree will be determined by its graduate committee.

Applicants for admission to graduate study should either contact the appropriate department for application forms and relevant information about the program or visit the department's website for online application information. The Graduate Studies website, graduate.rice.edu, also has links to the graduate departments' websites. The Graduate Degree and Department Information Chart (pages 5–9) lists department chairs with department phone/fax numbers and email addresses. Applicants should send all application materials, including transcripts and test scores, to the admitting department.

Application Process—An application for graduate study should include the completed application form, the application fee, transcript(s), recommendations, and writing samples, if required. Some departments require scores on the aptitude portion of the Graduate Record Examination (GRE) or the Graduate Management Admission Test (GMAT) and an appropriate advanced test. The ETS school code for Rice is 6609; in addition, applicants should send their test scores directly to the admitting department. See individual departmental listings for specific requirement information.
To make sure scores are available when admission decisions normally are made, applicants should take the GRE by the December before the fall for which they are applying. The application deadline for the fall semester is February 1. Some departments, however, may specify an earlier deadline, and departments may occasionally consider late applications.

Admission depends on students’ previous academic records, available test scores, and letters of reference from scholars under whom they have studied. Writing samples, portfolios, or statements of purpose also may be required. In general, applicants should have at least a 3.00 (B) grade point average in undergraduate work. Applicants whose native language is not English must take the TOEFL test and should score at least 90 on the iBT TOEFL or at least 600 on the paper-based TOEFL. For those students who choose to take the IELTS in lieu of TOEFL, the minimum score is 7. The TOEFL school code for Rice is 6609. The TOEFL and IELTS may be waived for an international student who has received a degree from a university in which English is the official language of communication. Departments must send a justification letter for waiving the TOEFL test requirement to the Office of International Students and Scholars.

GRADUATE DEGREES

Research Degrees

Research degrees are offered in seven of the eight schools at Rice, with some degrees combining studies in more than one school. For general information on advanced degree work at Rice, see Requirements for Graduate Study (pages 11–13). Specific requirements for advanced research degrees in each field of study appear in the appropriate departmental pages (see Departments & Programs). Students seeking additional material should contact the appropriate department (see Graduate Degree and Department Information Chart on pages 5–9).

PhD Programs—The PhD degree is awarded for original studies in the departments listed in the Graduate Degree and Interdepartmental and Cooperative Programs Charts (page 5–10); in architecture, the equivalent degree is the DArch. Candidates receive a PhD degree after successfully completing at least 90 semester hours of advanced study and concluding an original investigation that is formalized in an approved thesis. As final evidence of preparation for this degree, the candidate must pass a public oral examination. (See also Candidacy, Oral Examinations, and the Thesis Regulations on pages 13–15.) The residency requirement for the doctorate is four semesters of full-time study at the university.

Master's Programs—The MA degree is available in the departments listed in the Graduate Degree and Interdepartmental and Cooperative Programs Charts (page 5–10), including certain scientific fields of study. The MS degree is offered in the engineering and science fields also listed in the chart. Candidates may undertake the MArch, MArch in Urban Design, and MMus degrees as research degrees by adopting the thesis option. Candidates receive a master's degree after completing at least 30 semester hours of study (including thesis hours), 24 hours of which must be taken at Rice. Master's programs require original work reported in a thesis and a public oral examination. Most students take three or four semesters to complete a master's degree (some programs may require more time). Students receiving a master's degree must be enrolled in a graduate program at Rice University for at least one semester of full-time study.

Students also may pursue a nonthesis degree in certain departments. This degree would be based on alternative departmental requirements and would include, but not be limited to, the following:
• 30 semester hours of study
• 24 semester hours must be at Rice University
• Minimum residency is one semester of full-time graduate study
• At least 15 hours of course work must be at or above the 500 level
• All courses must be in the relevant field

In certain departments, students may receive a master’s degree (called an Automatic Master’s) when they achieve candidacy for the doctoral degree. Students seeking a master’s degree in this manner must submit a petition for the degree, signed by their department chair, to the Office of Graduate and Postdoctoral Studies by February 1 of the year in which the degree is to be awarded. (See also Candidacy, Oral Examinations, and the Thesis on page 13–15.)

Professional Degrees

Rice University offers advanced degree programs to prepare students for positions in a number of professional fields. The professional degrees offered appear in the Graduate Degree and Interdepartmental and Cooperative Programs Charts (pages 5–10). In some departments, the professional degree also prepares the student for a doctoral-level program. All professional degrees are master’s degrees with one exception: candidates earn the DMA after concluding a program of advanced music study.

Requirements for professional degrees include the successful completion of 30 semester hours or more of upper-level courses (at the 300 level or higher) with at least 24 hours taken at Rice. Minimum residency for all master’s degrees is one semester of full-time study. Specific information and requirements for individual degrees appear in the Graduate Degree Chart (pages 5–9). Program information and application materials also are available from the departments (see Graduate Degree and Department Information Chart on pages 5–9). For general information on advanced degree work at Rice, see Requirements for Graduate Study (pages 11–13).

Graduate financial aid and tuition waivers are not available to professional master’s students. This should be stated in the department’s offer letter.

Rice undergraduate students who wish to enter a professional master’s degree program degree should apply for admission through the normal procedures and in accordance with the normal timetables for application to such programs. While the GRE requirement may be waived in these cases, the authority for the waiver rests with the department. Departments may consider counting courses taken by the students while an undergraduate as credit toward the degree. The courses must be chosen from those that normally satisfy requirements toward the professional master’s degree. No course can be used, however, simultaneously to satisfy an undergraduate and a graduate degree requirement. The department has authority to accept or reject a particular course for graduate credit. When an offer of admission is made, the department’s offer letter should indicate that graduate financial aid and tuition waivers are not available to professional master's students. In addition, the department also must include in the offer letter a list of those courses taken by the student as an undergraduate that the department will accept for graduate course credit. These courses must be verified and approved by the Office of the Office of the Registrar and accepted by the department.

Admission into a professional program is granted separately from admission into a research or thesis program. Students who wish to change from a thesis program to a professional degree program must petition their department in writing. Upon recommendation of the department and approval by the dean’s office, the request is sent to the Office of Graduate and Postdoctoral Studies for consideration and final approval. If approved, students who received tuition
waivers while enrolled in the thesis program will be expected to repay the tuition before their professional degrees are awarded. Professional degree programs terminate when the degree is awarded. Students who wish to continue graduate study after completing a professional program must reapply for admission into a research program.

**Graduate Degree and Department Information Chart**

<table>
<thead>
<tr>
<th>School Department and Department Chair</th>
<th>Graduate Degree Offered and Contact Information</th>
<th>Additional Options or Areas of Concentration (within majors)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School of Architecture</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TBN (Dean)</td>
<td>MArch, March in Urban Design, DArch</td>
<td>Architecture design, urbanism, theory, and practice</td>
</tr>
<tr>
<td>John J. Casbarian (Associate Dean)</td>
<td>713-348-4044 fax: 713-348-5277 <a href="mailto:arch@rice.edu">arch@rice.edu</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>713-348-5152 <a href="http://www.arch.rice.edu/flash/">www.arch.rice.edu/flash/</a></td>
<td></td>
</tr>
<tr>
<td><strong>Susanne M. Glasscock School of Continuing Studies</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mary McIntire (Dean)</td>
<td>Master of Liberal Studies</td>
<td>Humanities, science, and social sciences</td>
</tr>
<tr>
<td>John W. Freeman (MLS Director)</td>
<td>713-348-4767 fax: 713-348-5213 <a href="mailto:mls@rice.edu">mls@rice.edu</a></td>
<td></td>
</tr>
<tr>
<td>Rebecca Sharp (Coordinator)</td>
<td><a href="http://www.mls.rice.edu">www.mls.rice.edu</a></td>
<td></td>
</tr>
<tr>
<td><strong>George R. Brown School of Engineering</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bioengineering</td>
<td>MBE, MS, PhD</td>
<td>Biomedical imaging and diagnostics, cellular and biomolecularengineering, computational and theoretical bioengineering, drug delivery and biomaterials, supramolecular biophysics and bioengineering, tissue engineering and biomechanics, and metabolic engineering.</td>
</tr>
<tr>
<td>Jennifer West</td>
<td>713-348-5869 fax: 713-348-5877 <a href="mailto:bioeng@rice.edu">bioeng@rice.edu</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>bioe.rice.edu</td>
<td></td>
</tr>
<tr>
<td>Chemical and Biomolecular Engineering</td>
<td>MChE, MS, PhD</td>
<td>Catalysis and nanotechnology, thermodynamics and phase equilibria, interfacial phenomena, colloids, microemulsions, rheology and fluid mechanics, biosystems engineering, biocatalysis and metabolic engineering, cell population heterogeneity and biological pattern formation, cellular and tissue engineering, energy and sustainability, gas hydrates, enhanced oil recovery, reservoir characterization, and pollution control</td>
</tr>
<tr>
<td>Kyriacos Zygourakis</td>
<td>713-348-4902 fax: 713-348-5478 <a href="mailto:chbe@rice.edu">chbe@rice.edu</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="http://www.rice.edu/chbe">www.rice.edu/chbe</a></td>
<td></td>
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<tr>
<td>Civil and Environmental Engineering</td>
<td>MCEE, MS, PhD</td>
<td>Civil engineering: sustainable urban infrastructure, structural dynamics and control, structures and mechanics, reinforced and prestressed concrete, geotechnical engineering, computational and computer-aided engineering, probability and random vibrations, reliability of systems, and solid mechanics</td>
</tr>
<tr>
<td>Pedro Alvarez</td>
<td>713-348-4949 fax: 713-348-5268 <a href="mailto:cee@rice.edu">cee@rice.edu</a></td>
<td>Environmental engineering: environmental biotechnology, environmental nanotechnology, chemistry, toxicology, hazardous waste remediation, surface and groundwater hydrology, water and wastewater treatment, urban and regional air quality, water resources engineering, and numerical modeling</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.cee.rice.edu">www.cee.rice.edu</a></td>
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<tr>
<td>Computational and Applied Mathematics</td>
<td></td>
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<tr>
<td>Matthias Heinkenschloss</td>
<td>MCAM, MA, PhD</td>
<td>Numerical analysis, operations research, and differential equations; additional program in computational science and engineering (see Interdepartmental and Cooperative Programs)</td>
</tr>
<tr>
<td></td>
<td>713-348-4805 fax: 713-348-5318 <a href="mailto:caam@caam.rice.edu">caam@caam.rice.edu</a></td>
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<td></td>
<td><a href="http://www.caam.rice.edu">www.caam.rice.edu</a></td>
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</tr>
<tr>
<td>Field</td>
<td>Name</td>
<td>Contact Information</td>
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<tr>
<td>-------------------------------------------</td>
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</tr>
<tr>
<td>Computer Science</td>
<td>Joe Warren</td>
<td>MCS, MS, PhD&lt;br&gt;713-348-4834 fax: 713-348-5930&lt;br&gt;<a href="mailto:comp@rice.edu">comp@rice.edu</a>&lt;br&gt;www.cs.rice.edu</td>
</tr>
<tr>
<td>Electrical and Computer Engineering</td>
<td>Behnaam Aazhang</td>
<td>MEE, MS, PhD&lt;br&gt;713-348-4020 fax: 713-348-5686&lt;br&gt;<a href="mailto:ece@ece.rice.edu">ece@ece.rice.edu</a>&lt;br&gt;www.ece.rice.edu</td>
</tr>
<tr>
<td>Mechanical Engineering and Materials Science</td>
<td>Enrique V. Barrera</td>
<td>MME, MMS, MS, PhD&lt;br&gt;713-348-4906 fax: 713-348-5423&lt;br&gt;<a href="mailto:mems@rice.edu">mems@rice.edu</a>&lt;br&gt;www.mems.rice.edu</td>
</tr>
<tr>
<td>Statistics</td>
<td>Katherine B. Ensor</td>
<td>MStat, MA, PhD&lt;br&gt;713-348-6032 fax: 713-348-5476&lt;br&gt;<a href="mailto:stat@stat.rice.edu">stat@stat.rice.edu</a>&lt;br&gt;statistics.rice.edu</td>
</tr>
<tr>
<td>Art History</td>
<td>Diane Wolfthal</td>
<td>PhD&lt;br&gt;713-348-4276, fax: 713-348-4039&lt;br&gt;<a href="mailto:arthist@rice.edu">arthist@rice.edu</a>&lt;br&gt;www.arthistory.rice.edu</td>
</tr>
<tr>
<td>English</td>
<td>Helena Michie</td>
<td>PhD&lt;br&gt;713-348-4840, fax: 713-348-5991&lt;br&gt;<a href="mailto:englgrad@rice.edu">englgrad@rice.edu</a>&lt;br&gt;www.english.rice.edu</td>
</tr>
<tr>
<td>French Studies</td>
<td>José Aranda</td>
<td>MA, PhD&lt;br&gt;713-348-4851, fax: 713-348-5951&lt;br&gt;<a href="mailto:fren@rice.edu">fren@rice.edu</a>&lt;br&gt;www.ruf.rice.edu/~fren/</td>
</tr>
<tr>
<td>Department</td>
<td>MA, PhD</td>
<td>Specialization</td>
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</tr>
<tr>
<td>Hispanic Studies</td>
<td>Our MA program is currently suspended. No applications are being accepted at this time.</td>
<td>Spanish and Latin American literature and Spanish linguistics</td>
</tr>
<tr>
<td>José Aranda</td>
<td>713-348-5451, fax: 713-348-4863 <a href="mailto:span@rice.edu">span@rice.edu</a> <a href="http://www.hispanicstudies.rice.edu">www.hispanicstudies.rice.edu</a></td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>MA, PhD</td>
<td>U.S., European, and other areas of history</td>
</tr>
<tr>
<td>Martin J. Wiener</td>
<td>713-348-4947, fax: 713-348-5207 <a href="mailto:hist@rice.edu">hist@rice.edu</a> history.rice.edu</td>
<td></td>
</tr>
<tr>
<td>Linguistics</td>
<td>MA, PhD</td>
<td>Anthropological, applied, cognitive, field, functional, discourse, and English, German, or Romance linguistics; second language acquisition; language typology and universals, sociolinguistics, phonetics, phonology, and speech technology</td>
</tr>
<tr>
<td>Nancy Niedzielski</td>
<td>713-348-6010, fax: 713-348-4718 <a href="mailto:ling@ruf.rice.edu">ling@ruf.rice.edu</a> <a href="http://www.linguistics.rice.edu/">www.linguistics.rice.edu/</a></td>
<td></td>
</tr>
<tr>
<td>Philosophy</td>
<td>MA, PhD</td>
<td>Specialization in medical ethics, value theory, and history of philosophy</td>
</tr>
<tr>
<td>Steven Crowell</td>
<td>713-348-4994, fax:713-348-5847 <a href="mailto:philos@rice.edu">philos@rice.edu</a> <a href="http://www.philosophy.rice.edu">www.philosophy.rice.edu</a></td>
<td></td>
</tr>
<tr>
<td>Religious Studies</td>
<td>PhD</td>
<td>African religions, African-American religions, the Bible and beyond, Buddhism, contemplative studies, Islam, Jewish thought and philosophy, modern Christianity in thought and popular culture, GEM (gnosticism, esotericism, mysticism), and psychology of religion</td>
</tr>
<tr>
<td>William Parsons, Interim</td>
<td>713-348-2238, fax: 713-348-5486 <a href="mailto:reli@rice.edu">reli@rice.edu</a> <a href="http://www.reli.rice.edu/">www.reli.rice.edu/</a></td>
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</tr>
</tbody>
</table>

**Jesse H. Jones Graduate School of Management**

William H. Glick (Dean)

- MBA
- MBA/Master of Engineering
- MBA/MD (with Baylor College of Medicine)
- MBA for Executives
- MBA for Professionals
- PhD
- 713-348-6147 ricemba@rice.edu www.jonesgsm.rice.edu/
- Rice University Executive Education 713-348-6060  oed@rice.edu

- Concentration options: accounting, energy, entrepreneurship, finance, global business, marketing, management consulting, and mastering creativity and innovation

Jeff Fleming (Associate Dean of Academic Affairs)

Sean Ferguson (Assistant Dean of Degree Programs)

D. Brent Smith (Associate Dean of Executive Education)

**Shepherd School of Music**

Robert Yekovich (Dean)

- BMus/MMus, MMus,
- DMA
- 713-348-4854, fax: 713-348-5317 musi@rice.edu www.ruf.rice.edu/~musi

- Composition, choral and instrumental conducting, historical musicology, performance, and music theory
- Composition and selected areas of performance
## Wiess School of Natural Sciences

<table>
<thead>
<tr>
<th>Field</th>
<th>Degree(s)</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biochemistry and Cell Biology</strong></td>
<td>MA, PhD</td>
<td>Biochemistry, biophysics, developmental biology, cell biology, genetics, molecular biology, neurobiology, structure and function of nucleic acids and proteins, regulatory processes, biochemistry of lipids, enzymology, NMR and crystallography, cellular regulation, oxygen and electron transport, molecular genetics of plants, animals, fungi, bacteria, and bacteriophage</td>
</tr>
<tr>
<td>Janet Braam</td>
<td></td>
<td>713-348-4015, fax: 713-348-5154 <a href="mailto:bioc@rice.edu">bioc@rice.edu</a> biochem.rice.edu</td>
</tr>
<tr>
<td><strong>Chemistry</strong></td>
<td>MA, PhD</td>
<td>Organic chemistry, inorganic chemistry, physical chemistry, nanotechnology, biological chemistry, theoretical and computational chemistry, materials chemistry, bio-organic chemistry, and bio-inorganic chemistry</td>
</tr>
<tr>
<td>Seiichi P. T. Matsuda</td>
<td></td>
<td>713-348-6158, fax: 713-348-5155 <a href="mailto:chem@rice.edu">chem@rice.edu</a> <a href="http://www.chem.rice.edu">www.chem.rice.edu</a></td>
</tr>
<tr>
<td><strong>Earth Science</strong></td>
<td>MS, PhD</td>
<td>Marine geology and geophysics: sedimentology, stratigraphy, paleoceanography, paleoclimatology, and evolution of continental margins and carbonate platforms; tectonics, nanotectonics, neotectonics, tectonophysics, geodynamics, mantle processes, planetology, and space geodesy; remote sensing, potential fields, reflection and lithospheric seismology, global seismology, wave propagation and inverse theory; kinetics of fluid-solid interactions, low T aqueous geochemistry, volcanology, petrology, and high T geochemistry, hydrogeology, sediment deformation, carbon cycling, climate change, terrestrial–biosphere interactions, igneous processes, and planetary differentiation</td>
</tr>
<tr>
<td>Alan Levander</td>
<td></td>
<td>713-348-4880, fax: 713-348-5214 <a href="mailto:geol@rice.edu">geol@rice.edu</a> <a href="http://www.earthscience.rice.edu/">www.earthscience.rice.edu/</a></td>
</tr>
<tr>
<td><strong>Ecology and Evolutionary Biology</strong></td>
<td>MA, MS, PhD</td>
<td>Ecology, plant and insect communities, populations, diversity, mutualisms, invasive species, evolution, quantitative genetics, mate choice, speciation, molecular evolution, adaptive evolution, behavioral ecology, sociobiology, genomics, and microbial evolution</td>
</tr>
<tr>
<td>Evan Siemann</td>
<td></td>
<td>713-348-4919, fax: 713-348-5232 <a href="mailto:eeb@rice.edu">eeb@rice.edu</a> <a href="http://www.eeb.rice.edu">www.eeb.rice.edu</a></td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td>MA, PhD</td>
<td>Differential and algebraic geometry, partial differential equations, probability and combinatorics, real analysis, complex variables, geometric and algebraic topology, mathematical physics, dynamics, and ergodic theory</td>
</tr>
<tr>
<td>Brendan Hassett</td>
<td></td>
<td>713-348-4829, fax: 713-348-5231 <a href="mailto:math@rice.edu">math@rice.edu</a> <a href="http://www.math.rice.edu">www.math.rice.edu</a></td>
</tr>
<tr>
<td><strong>Physics and Astronomy</strong></td>
<td>MST, MS, PhD</td>
<td>Atomic, molecular, and optical physics; biophysics; nuclear and particle physics; condensed matter physics; nanoscale physics; surface physics; space plasma physics; solar physics; astronomy, high-energy astrophysics; and theoretical physics</td>
</tr>
<tr>
<td>F. Barry Dunning</td>
<td></td>
<td>713-348-4938, fax: 713-348-4150 <a href="mailto:physics@rice.edu">physics@rice.edu</a> <a href="http://www.physics.rice.edu">www.physics.rice.edu</a></td>
</tr>
</tbody>
</table>

## School of Social Sciences

<table>
<thead>
<tr>
<th>Field</th>
<th>Degree(s)</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anthropology</strong></td>
<td>MA, PhD</td>
<td>Archaeology, anthropological linguistics, social/cultural anthropology, theory, history, and global change</td>
</tr>
<tr>
<td>Eugenia Georges</td>
<td></td>
<td>713-348-4847, fax: 713-348-5455 <a href="mailto:anth@rice.edu">anth@rice.edu</a> <a href="http://www.ruf.rice.edu/~anth/">www.ruf.rice.edu/~anth/</a></td>
</tr>
</tbody>
</table>
### Interdepartmental and Cooperative Programs Chart

<table>
<thead>
<tr>
<th>Program</th>
<th>Degrees Offered</th>
<th>Departments/Areas of Concentration</th>
</tr>
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<tbody>
<tr>
<td><strong>Interdepartmental Programs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applied Physics</td>
<td>Master's, PhD</td>
<td>Departments of physics and astronomy, chemistry, electrical and computer engineering, mechanical engineering, mechanical engineering, and materials sciences, bioengineering, and chemical and biomolecular engineering; sciences that underlie important new and emerging technologies. Contact: Rice Quantum Institute, 713-348-6356 or <a href="mailto:yck2@rice.edu">yck2@rice.edu</a></td>
</tr>
<tr>
<td>Computational Science and Engineering</td>
<td>MA, PhD</td>
<td>Modern computational techniques and use of powerful, new computers in research, development, and design involving the following departments: computational and applied mathematics, biochemistry and cell biology, earth sciences, computer science, chemical and biomolecular engineering, electrical and computer engineering, civil and environmental engineering, and statistics. Contact: 713-348-4657 or <a href="mailto:caam@caam.rice.edu">caam@caam.rice.edu</a></td>
</tr>
</tbody>
</table>

**Economics**

Mahmoud El-Gamal

- MA, PhD
- 713-348-2289
econ@rice.edu
www.ruf.rice.edu/~econ/

- Econometrics, economic theory, industrial organization and regulation, international trade and finance, labor, macroeconomics/monetary theory, and public finance and development

**Political Science**

Mark P. Jones

- MA, PhD
- 713-348-4842
poli@rice.edu
politicalscience.rice.edu

- American politics, comparative politics, and international relations

**Psychology**

TBN

- MA, PhD
- 713-348-4856, fax: 713-348-5221
psyc@rice.edu
www.ruf.rice.edu/~psyc/

- Cognitive-experimental psychology and industrial-organizational/social psychology, with tracks in engineering psychology, human–computer interaction, and neuropsychology

**Education Certification**

Meredith Skura

- MAT
- 713-348-4826, fax: 713-348-5459
educ@rice.edu
www.education.rice.edu/

- Secondary education
<table>
<thead>
<tr>
<th>Program Description</th>
<th>Degree(s)</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary teaching certification, in grades 8–12, in conjunction with BA in major field. Subjects include art, English, French, German, health science, history, Latin, life science, mathematics, physical education, physical science, physics/mathematics, science, social studies, and Spanish</td>
<td>MAT</td>
<td></td>
</tr>
<tr>
<td>Departments of computational and applied mathematics, statistics, civil and environmental engineering, chemistry, earth science, ecology and evolutionary biology, mechanical engineering and materials science, chemical and biomolecular engineering, sociology, and electrical and computer engineering. Contact Professional Master's Program: 713-348-3188 or <a href="mailto:profms@rice.edu">profms@rice.edu</a></td>
<td>MS</td>
<td></td>
</tr>
<tr>
<td>Susanne M. Glasscock School of Continuing Studies/Humanities, Sciences, and Social Sciences. Contact: 713-348-4767 or <a href="mailto:mls@rice.edu">mls@rice.edu</a></td>
<td>MLS</td>
<td></td>
</tr>
<tr>
<td>Departments of chemistry, electrical and computer engineering, mechanical engineering and materials science, chemical and biomolecular engineering, and physics and astronomy. Contact: 713-348-4906 or <a href="mailto:mems@rice.edu">mems@rice.edu</a></td>
<td>MS, PhD</td>
<td></td>
</tr>
<tr>
<td>Departments of physics and astronomy, electrical and computer engineering, and chemistry. Contact Professional Master's Program: 713-348-3188 or <a href="mailto:profms@rice.edu">profms@rice.edu</a></td>
<td>MS</td>
<td></td>
</tr>
<tr>
<td>Departments in anthropology, English, French, history, linguistics, philosophy, psychology, religious studies, and sociology</td>
<td>Graduate Certificate</td>
<td></td>
</tr>
<tr>
<td>Departments in earth science, chemistry, and statistics. Contact Professional Master's Program: 713-348-3188 or <a href="mailto:profms@rice.edu">profms@rice.edu</a></td>
<td>MS</td>
<td></td>
</tr>
<tr>
<td>Training opportunities for PhD students</td>
<td>Joint Program in Computational Biology</td>
<td>Research in a lab setting, seminars, and workshops and access to advanced resources of W.M. Keck Center for Computational Biology (fellowships available); with Baylor College of Medicine, the University of Texas Health Science Center, Houston, MD Anderson Cancer Center, the University of Texas Medical Branch, and the University of Houston. Contact: 713-348-4752 or <a href="mailto:bioc@rice.edu">bioc@rice.edu</a></td>
</tr>
<tr>
<td>Combined MD and advanced research degree for research careers in medicine; with Baylor College of Medicine, and the University of Texas Health Science Center. Contact: 713-348-5869 or <a href="mailto:bioeng@rice.edu">bioeng@rice.edu</a></td>
<td>Joint Programs with Medical Colleges</td>
<td></td>
</tr>
</tbody>
</table>
ACADEMIC REGULATIONS

FINAL EXAMINATION IN GRADUATE COURSES

Graduate courses, especially those with significant undergraduate student enrollment, should follow the guidelines for undergraduate courses (see Undergraduate Students section, page 17) regarding scheduling of projects, papers, and finals during the last weeks of classes, reading periods, and final exam periods. However, instructors have the discretion to modify those guidelines as appropriate for their specific courses. Such modifications and the final schedule must be made clear at the beginning of the semester.

REQUIREMENTS FOR GRADUATE STUDY

Graduate students must meet the following minimums, deadlines, and course or grade requirements to graduate in good standing from the university. Some departments may have stricter policies and/or requirements.

**Residency**—Master’s students must complete at least one full fall or spring semester in full-time study in a graduate program at Rice University. PhD students must complete at least four full fall and/or spring semesters in full-time study at Rice University.

**Full-time Study**—Semester course load for full-time students is nine hours or more as required by specific departments. Graduate programs at Rice generally require full-time study. Students wishing to enroll for less than full time or wishing to drop below full time during the semester must receive written permission from their academic department, and that written approval must be forwarded to the Office of Graduate and Postdoctoral Studies.

**Part-time Study**—Admission of part-time students requires departmental permission, and students must register for at least three hours in a semester. All time-to-degree requirements apply to part-time students. In order for students to receive the part-time tuition rate, they must receive verification of part-time approval from the Office of the Registrar’s Office by the end of the second week of classes.

**Time to Degree**—PhD students are required to complete their program, including thesis defense, within 10 years of initial enrollment in the degree program. All master’s students are required to complete their program, including thesis defense, within five years of initial enrollment. In both cases, students have a limit of six additional months from the date of defense to submit their theses to the Office of Graduate and Postdoctoral Studies. These time boundaries include any period in which the student was not enrolled or enrolled part time, for whatever reason. Failure to meet any university time to degree deadline may result in the student not being able to continue in their degree program.

**Time to Candidacy**—PhD students must be approved for candidacy before the beginning of the ninth semester of their enrollment at Rice. Master’s students must be approved for candidacy before the beginning of the fifth semester of their enrollment at Rice.

**Time to Defense**—PhD students must defend their theses before the end of the 16th semester of their enrollment at Rice. Master’s students must defend their theses before the end of the eighth semester of their enrollment at Rice.

**Time to Thesis Submission**—After candidates successfully pass the oral examination in defense of the thesis, they must submit two signed copies
of the thesis to the Office of Graduate and Postdoctoral Studies no later than six months from the date of the examination.

**Minimum Hours**—Students must register for at least three hours in a semester.

**Course Registration**—Students may register for courses of study and drop or add courses only with the approval of their advisor or the department chair.

**Deadlines**—Students must observe all deadlines listed in the Academic Calendar.

**Grades**—To graduate, students must achieve at least a B- (2.67) grade point average in courses counted toward the graduate degree. Some programs and departments have more stringent standards. To compute grade point averages, the credits attempted in semester hours for each course and the points for the grade earned (from A+ = 4.33 to F = 0.00) are multiplied, then the products (one for each course) are added together, and the sum is divided by the total credits attempted. See also Dismissal (pages 16–17).

**Pass/Fail**—All students, except Class III students, may take course(s) Pass/Fail outside their department. They must file a course as Pass/Fail no later than the end of the 10th week of classes; however, they may later convert a Pass/Fail to a graded course by filing the appropriate paperwork with the Office of the Office of the Registrar. Students should be aware that while a grade of P does not affect their Grade Point Average, a grade of F does.

**Satisfactory/Unsatisfactory**—Some departments may assign a grade of S or U. Students should be aware that while a grade of S or U does not affect their Grade Point Average, no credit will be awarded if a grade of U is received. Courses with a grade of S will count towards total credits earned. Class III students cannot take courses on a satisfactory/unsatisfactory grading basis.

**Audit**—The grade designation of AUD is used for people auditing a course, and specifically when the auditing student has met the audit requirements of the course. A grade designation of NC is given to students who do not meet the audit requirements. Request to audit a class or to change from audit to credit or vice versa must be done by the end of the second week of the semester.

**Departmental Duties**—In most research degree programs, students must undertake a limited amount of teaching or perform other services as part of their training. Assigned duties should not entail more than 10 hours per week, averaged over the semester, or extend over more than eight semesters.

**Research and Scholarly Activities**—Research and other scholarly activities of all students must be compliant with Rice University policies. It is recommended that students familiarize themselves with these policies before embarking on research or other scholarly activities. Particularly pertinent to students are policy 324–00 (Research Misconduct), policy 326–98 (Human Health and Safety in the Performance of Research), policy 333 (Patent and Software Policies), and policy 334 (Copyright Policy).

**Employment**—Students receiving a stipend may accept employment only with the approval of their home academic department. Students working for more than 20 hours per week are not normally eligible for full-time status.

**Continuous Enrollment**—Students must maintain continuous program involvement and enrollment unless granted an official leave of absence. See Leaves or Withdrawals (pages 15–16) for more information.

**Drop/Add**—During the first two weeks of classes, students may change their registration, add or drop courses without penalty. After the second week, the following conditions apply for adds and drops. Graduate students:
• May not add courses after the second week of classes, except in extenuating circumstances and with the approval of the Office of Graduate and Postdoctoral Studies (a $75 penalty fee per course will be assessed). The student's request to add a course first must be supported and approved by the student's advisor along with the course instructor and then forwarded to the Dean of Graduate and Postdoctoral Studies for consideration.

• May drop courses through the seventh week without penalty.

• May not drop courses after the end of the seventh week of classes, except in extenuating circumstances and with the final approval of the Office of Graduate and Postdoctoral Studies (a $75 penalty fee per course will be assessed). The student's request to drop a course first must be supported and approved by the student's advisor, the course instructor, and the appropriate department chair. Afterwards, it should be forwarded to the Dean of Graduate and Postdoctoral Studies for consideration. Students who receive approval to drop a course after the designated drop deadline will receive a grade of "W" for that course.

Graduate students that drop a class after the second week should keep in mind that there is no refund of tuition, assuming the student continues to be enrolled in at least one other class.

CANDIDACY, ORAL EXAMINATIONS, AND THE THESIS

Approval of Candidacy—Candidacy marks a midpoint in the course of graduate education. Achieving candidacy for the PhD signals that a graduate student has: (a) completed required course work, (b) passed required exams to demonstrate his/her comprehensive grasp of the subject area, (c) demonstrated the ability for clear oral and written communication, and (d) shown the ability to carry on scholarly work in his/her subject area. Requirements for achieving candidacy for the thesis master's degree are determined at the departmental level. Students enrolled in research degree programs submit their petitions for candidacy for a master's or doctoral degree through the department chair to the dean of graduate and postdoctoral studies. In the petition sent to the dean, the department chair identifies the student's thesis director, recommends a thesis committee, certifies that the applicant has fulfilled the departmental requirements, and provides a course transcript as evidence that work completed within the department is of high quality. Students in nonthesis master's programs, including professional master's programs, must submit a certification of nonthesis master's through their department chair to the Office of Graduate and Postdoctoral Studies.

Students must file their applications for approval of PhD and MA/MS candidacy in the Office of Graduate and Postdoctoral Studies on or before November 1 for January conferral and on or before February 1 for May conferral. Students may take the final oral examination in defense of their thesis only after the dean of graduate and postdoctoral studies approves their candidacy. PhD students must be approved for candidacy before the beginning of the ninth semester of their enrollment at Rice. Master's students must be approved for candidacy before the beginning of the fifth semester of their enrollment at Rice.

Thesis Committee—The thesis committee administers the oral examination for the student's thesis defense and has final approval/disapproval authority and responsibility for the written thesis.

A thesis committee is composed of at least three members. Two, including the committee chair, must be members of the student's department faculty; in doctoral
thesis committees one member must have his or her primary appointment in another department within the university. At least three members of the committee must meet one of the following requirements:

- Tenured or tenure-track members of the Rice faculty
- Research faculty holding the rank of faculty fellow, senior faculty fellow, or distinguished faculty fellow
- Faculty who have been certified as thesis committee members by the dean of graduate and postdoctoral studies

The composition of the thesis committee must always meet the guidelines mentioned above.

The committee chair need not be the thesis director. The chair, however, must be either a tenured or tenure-track member of the major department or a research faculty member of the major department. Additional members of the committee, who may or may not meet the above criteria, may be selected with the approval of the department chair. These would be in addition to the three required members.

Candidates are responsible for keeping the members of their committee informed about the nature and progress of their research. They also must establish a schedule for thesis completion and review. The members of the committee, in turn, should review the thesis in a timely manner, approving a preliminary form of the thesis before scheduling the oral examination.

**Announcement of Thesis Defense**—Oral examinations for the doctoral degree must be announced at least two weeks in advance. Oral examination announcements are to be submitted to the Office of Graduate and Postdoctoral Studies by entering the information into the Graduate Students Thesis Defense Announcement form at events.rice.edu/rgs/index.cfm. An automatically generated email will be sent to the Office of Research and Graduate Studies.

Oral examinations for the master's degree must be announced at least one week in advance in the same manner as the doctoral defense.

**Oral Examination in Defense of Thesis**—The public oral defense of a thesis is intended to be an examination of a completed body of work and should be scheduled only when the dissertation is essentially completed. At least one copy of the thesis must be available in the departmental office not less than two calendar weeks prior to the date of the oral defense. The length of the oral examination and the subject matter on which the candidate is questioned are left to the judgment of the committee. The defense should be scheduled by the student after consultation with the thesis advisor, who agrees that the thesis is completed and ready to be defended. All members of the thesis committee must be present for the oral defense. A candidate must be enrolled in the semester in which his or her oral examination is held. Students who defend during the summer must enroll in the summer session of classes. For the purpose of the oral defense only, enrollment in a semester is considered valid through the Friday of the first week of class of the following semester. Students passing the oral examination on or before the end of the first week of classes of any semester do not have to register for that or any subsequent semester even though they may be continuing to make minor revisions to the final copy of their thesis.

Should a candidate fail, the committee chair may schedule a second examination. Students who fail a second time must withdraw from the university.

Students must send a copy of their approval of candidacy form, signed by the thesis committee signifying successful defense of the thesis, to the Office of Graduate and Postdoctoral Studies within one week after the oral examination.
The original approval of candidacy form must be turned in when the thesis is submitted.

No later than six months from the date of the examination, candidates who successfully passed the oral examination in defense of the thesis must submit two signed copies of the thesis to the Office of Graduate and Postdoctoral Studies. If the thesis is not ready for final signature by the end of the six-month period, the “pass” will be revoked and an additional oral defense will need to be scheduled. Applications for an extension without reexamination must be made by the candidate with the unanimous support of the thesis committee, endorsed by the school dean, and approved by the Office of Graduate and Postdoctoral Studies. Extensions of this six-month period for completion without reexamination will be granted only in rare circumstances.

PhD students must defend their theses before the end of the 16th semester of their residency at Rice. Master’s students must defend their theses before the end of the eighth semester of their residency at Rice.

**Thesis Regulations and Procedures**—The thesis is the principal record of a student’s work for an advanced degree. It is permanently preserved in the library. Instructions for thesis submission and guidelines for thesis formatting are provided by the Office of Graduate and Postdoctoral Studies at the time of approval of candidacy. Additional copies of these instructions are available from the graduate studies office and can also be accessed on the Rice website at: graduate.rice.edu/grad/policies/thesis.

Students must have the original signatures of their thesis committee on two title pages of their dissertation. Students submitting a dissertation for the PhD, DArch, or DMA must fill out a Survey of Earned Doctorates form. All students submitting theses, whether for master’s or doctoral degrees, must complete a University Microfilms International (UMI) contract. Students must pay their fees for microfilming and binding their theses to the cashier before submitting the two copies to the Office of Graduate and Postdoctoral Studies for approval. Students have six months from the date of their defense to submit their thesis. However, in order to qualify for a given commencement, they must meet the submission deadline for that commencement per the Academic Calendar.

**Leaves or Withdrawals**

**Leave of Absence**—A leave of absence is granted only by the Office of Graduate and Postdoctoral Studies on the recommendation of the department chair and only to graduate students in good standing with the university. Students must obtain approval for a leave before the academic semester in question. These requests, approved by the department, must be received in the Office of Graduate and Postdoctoral Studies prior to the first day of classes.

Leaves are not granted after students register for courses or after the registration period passes. Normally, students may take a leave of absence for no more than two consecutive semesters. The semesters that a student is on leave do not count against the time to candidacy or the time to defense. They do, however, count against the time to degree. Students must pay a reinstatement fee of $100 on their return from an official leave.

**Short-Term Medical and Parental Leave**—If a graduate student cannot fulfill the duties of his or her appointment due to a medical emergency or the adoption or birth of a child, enrollment and stipend support may be continued for up to six weeks or until the appointment expires (whichever occurs first). Complete guidelines for obtaining a short term or parental leave are available at: graduate.rice.edu/Grad/Policies/med-mat-leave.cfm.
Withdrawal and Readmission—Students who wish to withdraw from Rice during the semester, for any reason, are to notify the chair of their academic department in writing (see Refund of Tuition and Fees, Undergraduate Students section, pages 36–37). Failure to register for any period without a leave of absence granted by the Office of Graduate and Postdoctoral Studies constitutes a de facto withdrawal.

The university may insist on a student’s involuntary withdrawal if, in the judgment of the dean of graduate and postdoctoral studies, the student

- Poses a threat to the lives or safety of him/herself or other members of the Rice community
- Has a medical or psychological problem that cannot be properly treated in the university setting
- Has a medical condition or demonstrates behavior that seriously interferes with the education of other members of the Rice community

Students who later wish to resume study, whether after voluntary or involuntary withdrawal, must reapply to the university. Readmission requires the recommendation of the department chair and the approval of the dean of graduate and postdoctoral studies. Accepted students must pay a readmission fee of $325.

Students who withdraw for medical reasons must meet certain conditions when applying for readmission. They must submit a written petition for readmission to the Office of Graduate and Postdoctoral Studies at least one month before the start of the semester in which they wish to resume their work at Rice. They also must provide evidence from a health professional that they have resolved the problems leading to their withdrawal. Some cases may require an interview with the director of the Rice Counseling Center, the director of Student Health Services, or their designees.

Nonenrollment—Students may not do degree work at Rice or work involving Rice faculty or facilities during any period of nonenrollment, except during the period following successful oral defense prior to submission of the final thesis.

Probationary Status

Graduate students whose cumulative grade point average or the average for the most recently completed semester (including the summer semester) falls below 2.33 are placed on probationary status; many departments may have more stringent standards. Although graduate programs may notify students in writing, probationary status applies whether or not a student has been notified. The period of probation extends to the end of the next semester in which the student is enrolled. Once students are placed on probationary status, they have one semester to improve their grades. If the next semester again results in probationary status, this results in dismissal. Students will be notified of their dismissal once final grades have been received and posted to their records.

Dismissal

The two most common grounds for dismissal of a graduate student from a graduate program are (1) inadequate academic progress, or (2) a disciplinary violation resulting in University sanction.

As noted above, a second consecutive semester of probationary status leads to automatic dismissal. In addition, students who are not making adequate academic progress, as assessed by their graduate program or by the Office of Graduate and Postdoctoral Studies, may be dismissed. For example, students may be dismissed, without warning, for failing to pass certain departmental
or university requirements, such as failing to advance to candidacy within the required time limit. In other situations, when a student is judged not to be making adequate academic progress or in other unusual circumstances, s/he must be warned in writing of the possibility of dismissal and given clear information about what must be done within a specified time period to alleviate the problem. These expectations must be reasonable and consistent with expectations held for all students similarly situated in the program. If the student does not meet the stated requirements within the time frame specified, s/he may be dismissed by the graduate program. The program will notify in writing both the student and the Office of Graduate and Postdoctoral Studies. A dismissal that takes effect during a semester must be approved by the Dean of Graduate and Postdoctoral Studies. Students may petition for a dismissal to be withdrawn as described under Petitions and Appeals. Any tuition refund will be prorated from the official date of dismissal, which is determined by the Office of the Office of the Registrar.

Non-academic Discipline

The Code of Student Conduct applies to all Rice students and applies to conduct both on and off campus. The assistant dean of student judicial programs may sanction students, including placing students on probation or suspension or expelling students, for violating the Code of Student Conduct (or the Honor Code, where applicable to graduate students) or for other non-academic disciplinary reasons. Students on disciplinary suspension of this type (including for an Honor Code violation) may not receive their degree even if they have met all academic requirements for graduation. Students on disciplinary suspension must leave the university within 48 hours of being informed of the suspension decision, though in cases of unusual hardship, the assistant dean of student judicial programs may extend the deadline to one week. Any tuition refund will be prorated from the official date of suspension, which is determined by the Office of the Registrar. While on disciplinary suspension or probation, students may not run for, or hold, any elective or appointed office in any official Rice organization. Participation in student activities on and off campus and use of Rice facilities are limited to enrolled students. Students seeking admission after leaving the university because of a sanction imposed by the assistant dean should submit a petition in writing for review by the assistant dean.

Petitions and Appeals

Graduate students may petition for exceptions to academic requirements, regulations, and judgments. Petitions should be handled at the lowest appropriate level. A petition regarding a departmental or school requirement, regulation, or judgment should be handled by the department or school. A petition regarding a University requirement or regulation should be submitted to the Office of Graduate and Postdoctoral Studies; that office will obtain the recommendation of the department and (when appropriate) the school and the Graduate Council with regard to such petitions.

A student is allowed only one level of appeal from a decision regarding a petition. In general, the appeal process should be resolved at the lowest level possible. When the petition is decided at a department level, the appeal should be submitted to the school. When the decision is at a school level, the appeal should be handled by the Office of Graduate and Postdoctoral Studies. When the petition is decided by the Office of Graduate and Postdoctoral Studies, the student may submit an appeal to the Provost.

A detailed procedure for petitions and appeals for graduate students is available
Grievances

Grievances are different from petitions and appeals. Petitions and appeals involve exceptions to academic requirements, regulations, and judgments. A grievance is a complaint regarding inappropriate conduct by other students, faculty members, or staff. Inappropriate conduct encompasses both inappropriate personal conduct, such as sexual harassment, as well as inappropriate official conduct, such as violation of University policies. Specific policies exist to address grievances based on discrimination or sexual harassment, and these policies should be followed in situations involving these issues. Grievances against another student may be raised with the Assistant Dean of Student Judicial Programs and addressed under the Code of Student Conduct. In other cases, a student may present a grievance in writing at the lowest appropriate level, typically the department or school. If a satisfactory resolution is not obtained at that level, the student may appeal the outcome of the grievance by presenting the problem at the next administrative level, such as the school, Office of Graduate and Postdoctoral Studies, or Provost. Grievances against non-faculty staff members may also be brought to the Employee Relations director in Rice’s Human Resources office. Students may seek guidance on any of these procedures through discussions with the Office of Graduate and Postdoctoral Studies.

Problem Resolution

During the course of graduate studies, problems may arise in the relationship between a graduate student and his/her department or advisor that do not fall under the category of Grievances, described above. Students should attempt to resolve such problems by informing the appropriate faculty members and working together to resolve the problem. When attempts to resolve the problem informally are unsuccessful, the following problem-resolution procedure should be used:

1. The student should submit the problem in writing to the department chair, who will then attempt to resolve it.

2. If the student remains unsatisfied, the problem should be presented to the departmental grievance committee for resolution. This committee should be the standing committee for this purpose and not the student's own review or thesis/dissertation committee. Both the student and the chair should submit a written record of their understanding of the problem to this committee.

3. If the student remains unsatisfied, the problem should be referred to a standing subcommittee of the Graduate Council, composed of three faculty members (representing diverse disciplines within the university) and a graduate student, with the Dean of Graduate and Postdoctoral Studies as an ex-officio member. A written report of proceedings at stage two should be presented to the Chair of Graduate Council for forwarding to the subcommittee, along with all other written materials generated during the investigation. The decision of this subcommittee is considered final.

Detailed procedures for grievances and problem resolution for graduate students is available at the Office of Graduate and Postdoctoral Studies.
TUITION, FEES, AND EXPENSES

The tuition and fees for graduate students in this section are for the 2009–10 academic year only and are subject to change in subsequent years. Current tuition and fees for all graduate students, full time and part time:

<table>
<thead>
<tr>
<th>Tuition</th>
<th>Annual</th>
<th>Semester</th>
<th>Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture, Shepherd School, and Professional Master's in Natural Science</td>
<td>$25,900.00</td>
<td>$12,950.00</td>
<td>$1,440.00</td>
</tr>
<tr>
<td>Professional Master's in Engineering</td>
<td>26,750.00</td>
<td>13,375.00</td>
<td>1,490.00</td>
</tr>
<tr>
<td>All others, entering Fall ’09</td>
<td>31,430.00</td>
<td>15,715.00</td>
<td>1,750.00</td>
</tr>
<tr>
<td>All others, Continuing</td>
<td>31,430.00</td>
<td>15,715.00</td>
<td>1,750.00</td>
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<tr>
<td>Jones School MBA</td>
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<td>Entering Fall ’08</td>
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<td>$81,500.00</td>
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<td>Intl. Medical Emergency &amp; Repatriation Fee</td>
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<td>Jones School Association Fee*</td>
<td>120.00</td>
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<td>Jones School Material Fee*</td>
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<td>Master's of Liberal Studies, Student Activity Fee, per session</td>
<td>44.00</td>
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* Only for Jones School MBA students

** Students are billed for the Medical Insurance Student Only Plan annually every fall and have the option at that time to waive the insurance if covered under another medical plan or submit an application for any of the other plan options at the following site: www.studenthealthinsurance.rice.edu.

Away Status—Graduate students pursuing their studies outside of the Houston area (graduate students on “away” status) must be registered and pay tuition but are not required to pay the fees listed above, with the exception of the Information Technology Fee ($62.50/semester). Students on away status must carry health insurance.

Reduced Tuition—After six semesters of full-time study in one degree program (excluding the summer semesters), continuing students are eligible for a reduced
tuition rate. A semester of full-time study is defined as a fall or spring semester in which at least nine hours of credit are earned. The reduced rate, like standard rate, varies by department/program. For architecture and Shepherd School students, the reduced rate is $1,440 per year ($720.00 per semester). For all other graduate students, the rate is $1,750 per year ($875.00 per semester). Students who are admitted with a relevant master's degree that counts toward a doctoral program at Rice may become eligible for reduced tuition earlier than those entering a doctoral program without a relevant master's degree.

Health Insurance—All students, full time or part time—including those on away status—must carry health insurance (see General Information section, pages 4–6).

Other Fees—Unless students elect a special payment plan, they must pay all tuition and fees for the fall semester by the middle of August and for the spring semester by the end of the first week of January. Past these deadlines, a late payment penalty of $140 will be assessed.

Part Time—Students who receive approval to enroll with a course load of fewer than nine hours and do so within the first two weeks of the semester will be charged at the per-hour rate plus a part-time registration fee. There are no refunds for part-time enrollment after the first two weeks of the semester.

Delinquent Accounts—Students in arrears on their financial obligation to Rice as of the last day to add courses for any semester may be withdrawn. The university will not issue certificates of attendance, diplomas, or transcripts at any time for a student whose account is in arrears. Students who have not made satisfactory arrangements with the cashier for payment of current charges or who have moved on campus without a proper room contract may be withdrawn from the university.

Special Fees

Audit Fee:
- Rice Alumni (per course) ................................................. $340.00
- All others (per course) .................................................. 660.00
Late registration fee I ....................................................... 75.00
Late registration fee II ....................................................... 125.00
Part-time registration fee ............................................... 135.00
Class 3 registration fee ................................................... 135.00
Late application fee (Class 3) .......................................... 100.00
Late payment penalty ...................................................... 140.00
Deferred payment plan late fee ........................................ 35.00
Returned check fee ........................................................... 30.00
Diploma fee: sheepskin ..................................................... 125.00
Diploma fee: parchment ................................................... 50.00
Diploma mailing fee: domestic .......................................... 30.00
Diploma mailing fee: air mail ............................................. 50.00
Diploma fee: facsimile ..................................................... 20.00
Transcript fee ................................................................. 5.00
Letter of standing ............................................................. 5.00
Intramural fees .............................................................. 20.00
Readmission fee: graduate students only ......................... 325.00
Readmission fee: after withdrawal for non-payment .......... 300.00
Reinstatement fee: graduate students only ...................... 100.00
Replacement ID: faculty, staff, and students .................. 10.00
ID: Dependents .............................................................. 10.00
Graduate application fee .................................. 70.00
Jones School application fee—all MBA programs ................. 125.00
Jones School application fee—all EMBA programs ................. 125.00

Recreation Center Membership Fees

<table>
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<th>Spring</th>
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<tr>
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<tr>
<td>Student: Graduate</td>
<td>45.00</td>
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Faculty/Staff—individual $24/month
Graduate Student—individual $10/month

* Student nine-month fee for membership paid with tuition.
Summer optional.

For more information, see Refund of Tuition and Fees in Undergraduate Students section, pages 36–37.

**FINANCIAL AID**

**Fellowships, Scholarships, and Assistantships**

A range of fellowships, scholarships, and assistantships are available at Rice. Most graduate students in degree programs requiring a thesis are supported by fellowships or research assistantships.

**Rice Graduate Fellowships**—Doctoral students with high academic records and strong qualifications receive support through Rice fellowships. In most cases, these fellowships provide a stipend plus tuition for the nine-month academic period. Departments may nominate particularly outstanding entering students for a Rice Presidential Fellowship.

**Rice Graduate Tuition Scholarships**—Students whose previous records show marked promise but for whom no graduate fellowships are available may receive full or partial graduate tuition scholarships, which do not include a stipend.

**Research and Teaching Assistantships**—Usually funded from grants and contracts, research assistantships are available in many departments. Qualified students (usually second-year or later) receive these awards to provide assistance on faculty research projects, work that usually contributes to the student's own thesis. In some departments, a limited number of teaching assistantships may be available to advanced students.

Fellowship, scholarship, and assistantship recipients are selected by the individual departments, subject to the approval of the Office of Graduate and Postdoctoral Studies. Students should send their applications for such awards directly to the department involved.

To receive Rice fellowships, graduate tuition scholarships, or assistantship aid, students must be engaged in full-time graduate study; part-time students and students who are not enrolled are not eligible for such aid.

Students receiving stipends from fellowships or assistantships may not accept any regular paid employment on or off campus without the explicit permission of the department. Full-time students, whether receiving stipend support or not, may not accept paid employment in excess of 20 hours per week.

**Loans and Work-Study Financial Aid**

In addition to fellowships, scholarships, and assistantships, the Office of Financial Aid offers assistance in the form of loans. Interested students must file a Free
Application for Federal Student Aid (FAFSA). If selected for federal verification, students may also be required to submit copies of income tax returns and W-2’s. The priority deadline to apply is May 15. (Loan assistance through Rice is not available to Master of Liberal Studies students.)

To be eligible to apply for loans, graduate students must maintain satisfactory academic progress as defined by their departments. Should a graduate student fail to make satisfactory academic progress, the student’s aid eligibility will be terminated. Graduate students who enroll for less than five hours in a term will not be eligible for financial aid.

**Federal Student Loans**—These are low-interest loans made to students attending the university at least half time. Subsidized Stafford loans require need-based financial aid eligibility, but unsubsidized Stafford loans and PLUS loans are available to all students. Loan eligibility is subject to annual and lifetime borrowing limits; PLUS loans require a satisfactory credit check.

**Loan Counseling**—Students who are recipients of federal student loans will be required to complete online loan entrance counseling before funds will be credited to student accounts. Students also will be required to complete online exit counseling at the completion of a program of study at Rice. Failure to complete online exit counseling will result in a transcript hold.

**Private Loan Programs**—Private loans are available to graduate and MBA students. These loans are not based on need but do require credit approval from the lender and cannot exceed the student’s cost of education, as determined by Rice, minus other resources.

**Special Loan Programs**—A Gulf Oil Corporation Foundation Loan Fund and the Benjamin S. Lindsey and Veola Noble Lindsey Memorial Loan Fund are available to help students working toward a degree meet their educational expenses; the funds are limited. Interested students may contact the Office of Student Financial Services.

**The Mary Lyn and Niles Moseley Loan Fund and the Professor John A. S. Adams, Sr., Memorial Graduate Student Loan Fund**—These funds provide financial assistance, in the form of loans, to graduate students at Rice University. Students wishing to apply for such a loan should obtain an application from the Office of Student Financial Services. Guidelines for the program are:

- Individual loans are made for an amount not to exceed $2,000.
- Loans are made for a period of up to one year and, upon request, may be renewable annually.
- The interest rate applicable to these loans is determined by the university.
- Graduate students must be enrolled on a full-time basis to be eligible to apply for a loan and must maintain full enrollment during the full term of the loan.
- Upon completion, applications are submitted to the dean of graduate and postdoctoral studies for approval.
- Loans are available during the full course of the academic year.
- Loans must be repaid before graduation.

**Emergency Loan Fund**—Established through gifts from the Graduate Wives Club of 1972–73, the Graduate Student Association, and various faculty members, this fund makes available emergency loans to help graduate students at Rice with short-term needs. Loans are limited to $250 and must be repaid within three months. In lieu of interest, a charge of $5 per loan is assessed to maintain the fund.
**Summer Aid**—Graduate students are eligible to apply for private educational loans if they are registered during the summer term.

**Other Fellowships, Honors, and Prizes**—Provisions are made for a variety of fellowships, scholarships, and prizes available to graduates of this and other universities. Memorial fellowships that have been founded and endowed by gift or bequest on the part of friends of Rice University provide stipends enabling the holders to devote their time to study and research in their chosen fields. There also are several industrial fellowships maintained by companies interested in the development of technical fields and the training of competent scientists, engineers, and business executives.

Persons desiring consideration for appointment as fellows should consult with the department in which they wish to do research. However, not all fellowships are available every year.

**Return of Title IV Funds**—Students who receive federal funds as part of their aid packages and do not complete the academic term may be subject to returning a portion of those funds. Contact the Office of Financial Aid for information about policies and procedures regarding the return of Title IV funds.

**GRADUATE STUDENT LIFE**

**Graduate Student Association**

All full-time students in the graduate program are members of the Graduate Student Association, which is the sole organization representing graduate students as a body. The governing body of this organization is the Graduate Student Association Council, consisting of a representative from each department offering graduate study and a president, vice president, secretary, and treasurer elected by the council. Graduate students also participate in university affairs through their representatives on many standing and ad hoc university committees, such as the Graduate Council, the Research Council, and various department committees.

One of the functions of the Graduate Student Association is to encourage social interaction among graduate students from different departments. To that end, the association organizes a variety of social activities open to all members of the graduate student body.

**Housing for Graduate Students**

Graduate students now have three different housing facilities: Rice Graduate Apartments, Rice Village Apartments, and Morningside Square Apartments. All three properties provide easy transportation to and from campus and all shopping needs on the weekend through a shuttle service. They also provide social activities and events to help students take a break from their studies. Each community is unique in its own way and provides a broad living environment.

Rice Graduate Apartments is a garden style complex located just north of campus on Bissonnet. The community features include quick and easy access to campus, attractive landscaping, and good lighting in all common areas designed to enhance the security and aesthetics of pedestrian, bike, and auto paths, parking, and recreational areas. Electronically controlled access gates for pedestrian and vehicular paths are provided. Handicap-accessible units are available to students with disabilities. The complex is designed with a centrally located area for social activities, a laundry room on each floor, a study room, and an RUPD substation. Each apartment, except the efficiencies, offers a living room chair, dresser, nightstand, and two bar stools. In addition, each
unit includes free basic cable TV, water, and a network drop for a personal computer. Housing is assigned via a lottery system. Call 713-348-GRAD (4723) for further information, or e-mail gradapts@rice.edu.

The Morningside Square Apartments are two-story 1950’s vintage units located in a quiet neighborhood adjacent to Rice Village on Shakespeare Street at Morningside Drive. The community is a short walking distance to campus, restaurants, and shopping areas. The common hallways, bedrooms, and living rooms feature oak hardwood flooring. Kitchens are equipped with a refrigerator and range. All units have ceiling fans, electric heat, and window air conditioners. Basic cable TV is provided, and a coin-operated laundry is available on-site. Controlled access gates for pedestrian and vehicular use are included. Apartments are assigned on space availability. Call 713-348-4050 or e-mail msapts@rice.edu for further information.

The Rice Village Apartments is a four-story contemporary style community located on Shakespeare Street across from Morningside Square Apartments. It offers four handicapped accessible units, and the entire complex complies with the Disabilities Act. Each unit offers appliances equipped with Energy Star efficiency to conserve energy and protect the environment, giving residents lower electricity bills. In addition, it is furnished with a dresser, nightstand, desk, chair, bed, and bar stool(s). Basic cable, Internet, and water also are included. The amenities offered are a community herb garden, clubhouse, bike program for students without cars, and a laundry facility that alerts students via e-mail when laundry is done. Controlled access gates, key fob system, and RUPD on-site provides adequate security for residents. Apartments are assigned based on availability and also are extended to the first year lottery system. For more information, call 713-348-4050, or e-mail rvapts@rice.edu.

**Health Insurance Requirements for Graduate Students**

Paying the student health service fee gives graduate students access to both the Student Health Service and the Rice Counseling Center (see General Information section, pages 4–6). New graduate students may not register for or attend classes until they have completed and returned the health data form to Rice and have met the immunization and TB screening requirements.

All graduate students must have health insurance. Students may purchase insurance through the university or through an outside source. Rice's group coverage for the 2009–10 academic year is effective from 12:01 AM, August 15, 2009, until 12:01 AM August 15, 2010. Dependent coverage also is available. A description of the policy and the application form can be found on the Web at studenthealthinsurance.rice.edu. A waiver form, if outside insurance is provided, also can be found at this site. Students should submit either the application or waiver by August 15 each year.

**Class III Students in Nondegree Programs**

Students with a 3.00 (B) or better grade average and an undergraduate or graduate degree from an accredited college or university may apply for admission as Class III students. These students may take courses for credit without being admitted to a specific degree program. Registration requires the permission of the instructor and approval by the dean of graduate and postdoctoral studies. Class III students must register for at least three hours and cannot take courses on a pass/fail or satisfactory/unsatisfactory basis. Class III students must receive at least a B for all classes taken or they will not be allowed to remain in the Class III program.

Students may not use courses taken under this arrangement to fulfill the
requirements for a Rice degree unless and until they have been accepted into a degree program by an academic department (as well as, in the case of graduate students, by the dean of graduate and postdoctoral studies) and received department approval; students are responsible for obtaining the proper approvals. Students may request that the department allow up to three courses taken as Class III to count toward their graduate degree.

**Applications for Class III**

Applications and course request forms are available from the Office of Graduate and Postdoctoral Studies. Official transcripts from all colleges and universities the student has attended should be mailed directly by the institutions to the Office of Graduate and Postdoctoral Studies. Students who were previously Class III students must complete a new application (without transcripts) for each such semester. All application materials are due by the workday closest to August 1 for fall semester courses and December 1 for spring semester courses. Late applications are not considered after classes have begun. Individuals applying as Class III students for the summer term should apply to the Summer School for College Students (see Undergraduate Students section, pages 28–29).

**Tuition and Fees for Class III**

The tuition for 2009–10 is $1,750 per semester hour, not to exceed $15,715, plus a $135 registration fee and a $62.50 InfoTech fee each semester. All fees are payable prior to registration. Students failing to submit their applications by the deadline must pay a late application fee of $100, and students registering after the second week of class must pay a $125 late registration fee and also may have to pay a late payment fee. For some courses, students may be charged for computer time. If a class fills with degree students, instructors may drop Class III students up to the end of the third week of class. In that case, the tuition (less $30 of the registration fee) will be refunded. If a Class III student withdraws, drops, or adds classes, the same rules regarding refunds and applicable fees apply as for degree seeking graduate students. There is no refund for dropping a class after the second week, as long as the student stays enrolled in at least one other class. Pro-rated refunds for withdrawals are according to the deadlines listed on the academic calendar. Please see Undergraduate Students section, pages 28–29, for information pertaining to summer school.
The Air Force Reserve Officer Training Corps (ROTC) program prepares men and women of character, commitment, and courage to assume leadership positions as commissioned officers in the active duty United States Air Force. On completion of the curriculum, students will have a thorough understanding of the core values, leadership, teamwork, and other requirements to be an effective officer in the world's greatest Air Force. For more information on the Air Force Science program, contact the Air Force Science Department at the University of Houston by calling 713-743-4932 or on-line at www.uh.edu/afrotc.

All courses and physical training sessions take place at the University of Houston. Flight orientation occurs at airports in the Houston metro area.

**Course Credit**

ROTC classes may be taken for elective credit toward any degree plan at the University of Houston. Freshman and sophomore level courses are open to all students. No military obligation is incurred as a result of enrollment in these courses. Junior and senior level courses are more restrictive and do require a military obligation. ROTC scholarship students also incur a military obligation.

**Four-Year Program**

The General Military Course (GMC) is the first half of the four-year ROTC program and is taken during the freshman and sophomore years. This program allows the student to experience Air Force ROTC without obligation (unless the student is on an Air Force ROTC scholarship).

Each semester of the GMC consists of one classroom hour of instruction as well as Leadership Laboratory each week.

During the first two years, the student will learn about the Air Force and the historical development of aerospace power.

During the summer preceding the junior year, the student will compete for the opportunity to attend a four-week Field Training Unit. Successful completion of field training is mandatory for entrance into the Professional Officer Course (POC), the junior and senior years of the four-year program.

As a junior, the student will study the core values, leadership, teamwork, and management tools required to become an effective Air Force officer.

During the senior year, students study the national security policy process and regional and cultural studies, and complete final requirements for commissioning as second lieutenants.

Enrollment in the POC is open to graduate students if they have four semesters of school remaining. Each semester of the POC consists of three classroom hours of instruction as well as Leadership Laboratory each week.
LEADERSHIP LABORATORY

As an Air Force ROTC cadet, each student is required to attend an additional two-hour class known as Leadership Laboratory.

Although not part of the academic class requirement, it is an essential element of officer training. Leadership Laboratory is an intensive military training program in which students gain invaluable leadership and managerial experience while learning about the Air Force way of life. Students have numerous opportunities to hear guest speakers and panel discussions, participate in field trips, and experience practical leadership exercises.

AFROTC Scholarship Opportunities

Air Force ROTC offers various scholarship opportunities for students at the University of Houston:

In-College Scholarship Program (ICSP) is a highly competitive scholarship program aimed primarily at college freshmen and sophomores in any major (students with a bachelor’s degree can compete to earn a master’s degree). The ICSP awards cover tuition capped at either $15,000 per year plus $900 per year for books or $9,000 per year plus $900 per year for books.

The Express Scholarship Program is operated on a fully qualified basis: those who meet the qualifications are awarded the scholarship. Though the list of eligible college majors differs from year to year, the express scholarship covers full tuition per year and $900 for books. Recent majors that qualified for express scholarships included electrical engineering, environmental engineering, computer science, and strategic foreign languages. The processing of the scholarship award is completed at the local detachment.

Stipend

All AFROTC scholarship recipients and POC cadets receive a nontaxable monthly stipend. The annual stipend amount ranges from $2,000 per year to $4,000 per year depending on the recipient’s enrollment year.

For additional information on AFROTC scholarship opportunities, please visit the AFROTC website at www.afrotc.com or call 1-800-4AFROTC.

Field Training (FT)

Cadets completing the General Military Course attend four weeks of field training (FT) during the summer at a selected Air Force base. Those who have not completed the GMC attend an extended FT Unit. This rigorous program of leadership training, physical conditioning and academics assesses the cadet’s potential to be an Air Force officer.

Cadets also receive survival and firearms training and career information. Cadets receive travel pay and daily pay for FT.

Flight Orientation Program

All cadets can volunteer to participate in a joint Air Force ROTC/Civil Air Patrol flight orientation program. This consists of eight flights, four in the front seat of a small passenger aircraft and four additional flights in the back seat as an observer. In addition, an abbreviated flying ground school course is taught in the ROTC classrooms using FAA textbooks. The flight orientation and ground school course are both free for all cadets.
Physical Fitness Training
Cadets meet twice per week at the University of Houston Alumni Center to perform physical fitness training. The training is mandatory and emphasizes push-ups, sit-ups, and running in order to pass the USAF physical fitness test.

Professional Development Training (PDT)
Cadets are eligible to compete to attend PDT during the summer months. PDT consists of several programs, including:

• Tours of nearby active duty Air Force bases
• Soaring and free-fall parachuting at the United States Air Force Academy (USAFA)
• Cultural and Foreign Language Immersion
• Hands-on research at Air Force laboratories
• Shadowing a Air Force officer in Operation Air Force
• Internships at NASA and other government organizations

Cadets receive travel pay and daily pay for the majority of these programs. For more information contact the Unit Admissions Officer at 713-743-4932/3704 or visit the University of Houston Air Force website at www.uh.edu/airforce.

Summary
During this time of war, our mission of producing Air Force second lieutenants of character, commitment, and courage is more important than ever.

See AFSC in the Courses of Instruction section (these are University of Houston listings).
ANCIENT MEDITERRANEAN CIVILIZATIONS

THE SCHOOL OF HUMANITIES

DIRECTOR AND ADVISOR
Michael Maas

ASSOCIATE PROFESSORS
David Cook
April de Conick
Matthias Henze
Hilary S. Mackie
Scott McGill

PROFESSORS
James D. Faubion
Michael Maas
Susan Keech McIntosh
Donald Ray Morrison
Paula Sanders
Harvey E. Yunis

ASSISTANT PROFESSORS
Jeff Fleischer
Caroline Quenemoen

Degree Offered: BA

This interdisciplinary major in the cultures of ancient Greece and Rome, Judaism, early Christianity, and early Islam, as well as their antecedents, explores these traditions both for their intrinsic interest and for the contributions each has made to contemporary Western society. Our combined focus on ancient cultural history in its broadest sense and on perspectives offered by cultural criticism enables students to examine the beginnings of the civilization in which they now participate.

Courses for this major address common questions about the transmission and transformation of cultures in the ancient Mediterranean world. Students examine sources, such as texts, artifacts, and institutions, that illuminate the process. They study how shifting cultural centers and frontiers in this world are delineated, and they explore the general integration and disintegration of specific ancient cultures. This major also offers opportunities for archaeological fieldwork and study abroad.

Rice is a sponsor of the American School of Classical Studies at Athens, the American School of Oriental Research, and the Intercollegiate Center for Classical Studies in Rome. Students majoring in Ancient Mediterranean Civilizations are encouraged to study in these programs as well as in the College Year in Athens program.

Degree Requirements for BA in Ancient Mediterranean Civilizations

Students must take one course from three of the five following categories: 1) Graeco-Roman Civilization, 2) Islamic Civilization, 3) Jewish Civilization, 4) Christian Civilization, and 5) Archaeological Methods & Theory. In addition, students must take one course that addresses the creation, transmission, and reception of traditions in the Mediterranean world. Courses that meet this requirement are designated as “Themes Across Time.”

Students also must fulfill a comparative requirement by taking either one course that, in and of itself, treats two different cultural traditions (designated “Comparative”) or two separate courses on similar themes but from different cultures (e.g. Women in Greece & Rome, Women in the Islamic World). Although not required, courses in ancient languages are recommended. A minimum of five courses must be taken at the 300-level or above.
For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). Majors in Ancient Mediterranean Civilizations must complete at least 30 semester hours (10 courses). Students may select from the following courses to fulfill their requirements for the major. Please note that not all courses listed below will be offered during the academic year. For a current list of AMC courses, please visit the AMC Web site at amc.rice.edu.
HIST 437 Christians and Jews in the Medieval Islamic World
HIST 438 Women and Gender in the Medieval Islamic Societies
HIST 460 Advanced Seminar in Ancient History
LATI 101 Elementary Latin I
LATI 102 Elementary Latin II
LATI 201 Intermediate Latin I: Prose
LATI 202 Intermediate Latin II
LATI 301 Advanced Latin: Literature of Exile in the Roman Tradition
LATI 302 Advanced Latin: Roman Epic
LATI 303 Advanced Latin: Plautus and Terence
LATI 311 Latin Pastoral Poetry
LATI 312 Advanced Latin: Ovid
LATI 313 Cicero and Catullus: Literature and Society in the Roman Republic
MDST 101 Elementary Latin I
MDST 102 Elementary Latin II
MDST 202 Introduction to Medieval Civilization: The Early Middle Ages
MDST 211 Intermediate Latin I: Prose
MDST 212 Intermediate Latin II
MDST 223 Empires and Communities in the Middle Ages
MDST 257 Jews and Christians in Medieval Europe
MDST 308 The World of Late Antiquity
MDST 357 Jews and Christians in Medieval Europe
MDST 358 European Intellectual History from Augustine to Descartes
MDST 382 Classical Islamic Cultures
MDST 385 Christians and Jews in the Medieval Islamic World
MDST 438 Women and Gender in the Medieval Islamic Societies
MDST 460 Advanced Seminar in Ancient History
RELI 123 God, Time, and History
RELI 125 Introduction to Biblical Hebrew I
RELI 126 Introduction to Biblical Hebrew II
RELI 127 Intermediate Biblical Hebrew I
RELI 128 Intermediate Biblical Hebrew II
RELI 210 Ethics in Judaism
RELI 350 Sacred Scriptures in Monotheistic Faiths
WGST 225 Women in Greece and Rome

WGST 332 Sex, Self, and Society in Ancient Greece
WGST 455 Women and Gender in the Medieval Islamic Societies

Islamic Civilization
ASIA 221 The Life of the Prophet Muhammad
ASIA 441 Popular Religion in the Middle East
HIST 382 Classical Islamic Cultures
HIST 437 Christians and Jews in the Medieval Islamic World
HIST 438 Women and Gender in the Medieval Islamic Societies
MDST 382 Classical Islamic Cultures
MDST 385 Christians and Jews in the Medieval Islamic World
MDST 438 Women and Gender in the Medieval Islamic Societies
RELI 141 Introduction to Islam
RELI 221 The Life of the Prophet Muhammad
RELI 223 Qur’an and Commentary
RELI 350 Sacred Scriptures in Monotheistic Faiths
WGST 455 Women and Gender in the Medieval Islamic Societies

Jewish Civilization
HIST 113 God, Time, and History
HUMA 113 God, Time, and History
RELI 122 The Bible and Its Interpreters
RELI 125 Introduction to Biblical Hebrew I
RELI 126 Introduction to Biblical Hebrew II
RELI 127 Intermediate Biblical Hebrew I
RELI 128 Intermediate Biblical Hebrew II
RELI 209 Introduction to Judaism
RELI 210 Ethics in Judaism
RELI 350 Sacred Scriptures in Monotheistic Faiths
RELI 383 The Dead Sea Scrolls

Christian Civilization
RELI 122 The Bible and Its Interpreters
RELI 125 Introduction to Biblical Hebrew I
RELI 126 Introduction to Biblical Hebrew II
RELI 127 Intermediate Biblical Hebrew I
RELI 128 Intermediate Biblical Hebrew II
RELI 223 Qur’an and Commentary
RELI 243 The Book of Genesis
RELI 282 Introduction to Christianity
RELI 350 Sacred Scriptures in Monotheistic Faiths
RELI 381 The Messiah
RELI 383 The Dead Sea Scrolls
RELI 410 Apocalypse Then and Now

Archaeological Methods and Theory
ANTH 203 Human Antiquity: An Introduction to Physical Anthropology and Prehistory
ANTH 205 Introduction to Archaeology
ANTH 345 The Politics of the Past: Archaeology in Social Context
ANTH 362 Archaeological Field Techniques
ANTH 363 Early Civilizations
ANTH 425 Advanced Topics in Archaeology
ANTH 460 Advanced Archaeological Theory

Themes Across Time
ANTH 321 Text as Property, Property as Text: Across the Ages
ANTH 363 Early Civilizations
CLAS 311 Text as Property, Property as Text: Across the Ages
FSEM 151 The Hero and His Companion from Gilgamesh to Sam Spade
HART 101 Introduction to the History of Western Art: Prehistoric to Gothic
HIST 113 God, Time, and History
HIST 151 The Hero and His Companion from Gilgamesh to Spiderman
HIST 200 Origins of Western Civilizations: Ancient Empires
HIST 308 The World of Late Antiquity
HIST 358 European Intellectual History from Augustine to Descartes

HUMA 113 God, Time, and History
MDST 308 The World of Late Antiquity
MDST 358 European Intellectual History from Augustine to Descartes
PHIL 201 History of Philosophy I
PHIL 301 Ancient and Medieval Philosophy
PHIL 307 Social and Political Philosophy
PHIL 327 History of Social and Political Philosophy
RELI 123 God, Time, and History

Comparative
CLAS 209 Greek and Roman Drama
CLAS 225 Women in Greece and Rome
CLAS 336 The Origin of the Languages of Europe
CLAS 337 Epic and Novel
ENGL 335 Epic and Novel
HIST 357 Jews and Christians in Medieval Europe
HIST 437 Christians and Jews in the Medieval Islamic World
HIST 438 Women and Gender in the Medieval Islamic Societies
MDST 357 Jews and Christians in Medieval Europe
MDST 385 Christians and Jews in the Medieval Islamic World
MDST 438 Women and Gender in the Medieval Islamic Societies
PHIL 501 Seminar in Ancient and Medieval Philosophy
WGST 225 Women in Greece and Rome
WGST 455 Women and Gender in the Medieval Islamic Societies
The School of Social Sciences

Degrees Offered: BA, MA, PhD

The major in anthropology has three areas of concentration: culture, language, and media; knowledge, power, and institutions; and archaeological studies. The focus in the first two areas is on contemporary theoretical issues. By reading primary sources, students gain an exposure to the styles of argument and reasoning of a broad range of theorists. They can engage in the ongoing discussion and definition of central problems within the field. Fieldwork and ethnography are important in the doctoral research.

In archaeology, the focus is on research skills in the library, the field, and the laboratory. Most students also develop at least one analytical skill, such as remote sensing, archaeological statistics, osteology, or geomorphology, drawing on the university’s extensive laboratory and computer facilities.

Students may organize a major in one or more fields or combine a major in anthropology with one in another discipline.

Degree requirements for BA in Anthropology

Students majoring in anthropology must:

- Complete a total of 30 semester hours of approved courses (10 hours), at least 24 of which should be anthropology courses and at least 18 hours of which should be taken at the 300-level or above.
- Pass two of the following four introductory courses:
  - ANTH 200 Introduction to the Scientific Study of Language
  - ANTH 201 Introduction to Social and Cultural Anthropology
  - ANTH 203 Human Antiquity
  - ANTH 205 Introduction to Archaeology
- Pass three courses in one of the following categories:

Chair
Eugenia Georges

Professors
James D. Faubion
Susan Keech McIntosh
Stephen A. Tyler

Associate Professor
Dominic C. Boyer

Professors Emeriti
George E. Marcus
Roderick J. McIntosh
Julie M. Taylor

Assistant Professors
Tarek Elhaik
Jeffrey B. Fleisher
A. Cymene Howe
Amy Ninetto
Elizabeth F. Vann

Adjunct Professors
George E. Marcus
Patricia Seed

Adjunct Associate Professor
Deepa Reddy
Departments / Anthropology

Archaeological Studies
- ANTH 210 Anthropology of Death
- ANTH 312 African Prehistory
- ANTH 345 Politics of the Past
- ANTH 355 Landscape Archaeology
- ANTH 362 Archaeological Field Techniques
- ANTH 442 Museums: Theory and Practice
- ANTH 456 Heritage Management
- ANTH 458 Human Osteology

Culture, Language, and Media
- ANTH 210 Anthropology of Death
- ANTH 212 Perspectives on Modern Asia
- ANTH 302 Anthropological Theory
- ANTH 320 Public Spheres and Public Cultures
- ANTH 329 Bodies, Sensualities, and Art
- ANTH 333 The Material World
- ANTH 351 Cultures of Nationalism
- ANTH 361 Latin American Topics
- ANTH 372 Cultures of Capitalism
- ANTH 385 Media, Culture, and Society
- ANTH 398 Ethnographic Research Methods
- ANTH 413 Postsocialism
- ANTH 483 Documentary and Ethnographic Film

Knowledge, Power, and Institutions
- ANTH 302 Anthropological Theory
- ANTH 319 Symbolism and Power
- ANTH 320 Public Spheres and Public Cultures
- ANTH 329 Bodies, Sensualities, and Art
- ANTH 345 Politics of the Past
- ANTH 347 The U.S. as a Foreign Country
- ANTH 349 The Anthropology of Ethics
- ANTH 361 Latin America Topics
- ANTH 366 Science, Local and Global
- ANTH 372 Cultures of Capitalism
- ANTH 381 Medical Anthropology
- ANTH 398 Ethnographic Research Methods
- ANTH 442 Museums: Theory and Practice
- ANTH 445 Experts and Expertise
- ANTH 446 Advanced Seminar in Medical Anthropology

- Pass the appropriate research course(s):

For students specializing in Knowledge, Power and Institutions or Culture, Language and Media:
- ANTH 495 Anthropology Capstone or
- ANTH 490 and 491 Directed Honors Research

For students specializing in Archaeological Studies:
- ANTH 562 Archaeological Field Techniques

Students may petition the undergraduate advisor to apply up to six semester hours of relevant work completed outside anthropology toward satisfaction of the major.

Honors Program—Majors considering a career in anthropology should apply to the honors program, as should those who wish to include advanced training and an intensive, individual research project in their undergraduate education. Anthropology faculty determine acceptance into the program. More information is available from the department office; see also Honors Programs (Undergraduate Students section, pages 14–15).

Archaeological Field School in sub-Saharan Africa
The Department of Anthropology offers a six-week field school in June and July in sub-Saharan Africa, alternating between eastern and western locales. Past field schools have been on the island of Gorée, located off the coast of Senegal, where research focused on the development of Gorée as a supply port.
for the Atlantic trade, and at Songo Mnara, a 15th-century Swahili urban center on the southern Tanzanian coast. This course, ANTH 374, is offered for a total of six hours of credit. The course is offered without specific prerequisites, but there is a general requirement that students have some prior course work in archaeology of African history. Program fees apply.

**Degree Requirements for MA and PhD in Anthropology**

Because each field of specialization offers different opportunities for training and different research orientations, the department seeks applicants with a defined interest in either cultural anthropology or archaeology; an undergraduate background in anthropology is desirable but not required. Entering students devise a detailed first-year plan of study and provisional plans for succeeding years in consultation with an advisor. The plan should emphasize broad training in the selected field before the eventual definition of a project for dissertation research. For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4).

**MA Program**—Graduate students may earn the MA after obtaining approval of their candidacy for the PhD. For the MA as a terminal degree, students must complete:

- 30 semester hours of approved course work
- One of the three special papers required for the PhD
- A thesis

**PhD Program**—For the PhD degree, students must accomplish the following (in addition to the university requirements):

- Required course work for social-cultural students: 90 semester hours of graduate study (undergraduate courses, including language courses, do not satisfy this requirement)
- Seven Required courses
  
  **ANTH 506** *History of Anthropological Ideas*
  
  **ANTH 507** *Anthropological Directions from Second World War to the Present*
  
  **ANTH 552** *Interscientific Collaboration: A Research Practicum*

  or

  **ANTH 598** *Ethnographic Research Methods*
  
  **ANTH 602** *Anthropology Proposal Writing Seminar*
  
  **ANTH 615** *Theories of Modernity/Postmodernity*

  or

  **ANTH 616** *Classical Social Theory and Its Ecologies*
  
  **ANTH 650** *Pedagogy* (one semester; a minimum of 18 hours of graduate credit is required in order to be eligible to take this course)
  
  **ANTH 652** *Research Design*

- Advance to candidacy
- Complete and defend the dissertation

Requirements for candidacy (and thus eligibility for an automatic MA), to be completed no later than the end of the eighth semester of enrollment in the program:

- Successful completion of all required courses. Students must receive at least a B (3.0) in a course for the department to deem it successfully completed.
• The approval by a faculty committee (chosen among the regular [i.e. tenured or tenure-track] faculty at Rice) of three major papers:
  * one concerning some issue of research design;
  * one concerning an issue of theory or theorization;
  * one an annotated bibliography of the substantive research relevant to the PhD project.
  One of the first two of these papers should be written in the format and in conformity with the requirements of one of the major journals in the field.
• The committee's approval of the proposal for the PhD.
• For students not bilingual, the passing of an examination (requiring the translation of at least 1,000 words into English in a period of 90 minutes, with the help of a dictionary) either of the language relevant to the field or of a major scholarly language, such as French, German, or Spanish.

Special Options—The department will arrange seminars and tutorials on any topic relevant to a student's training; these seminars may be conducted in supervisory consultation with scholars in other disciplines as well as with adjunct faculty. Students interested in the specialized field of medical anthropology may take advantage of the extensive resources of the Texas Medical Center through ties established with the University of Texas School of Public Health and Graduate School of Biomedical Sciences; students may earn degree credit for formal courses taken at both schools.

Financial Support—All first-year students receive the same level of support: a combination of graduate fellowships and tuition scholarships. These awards are renewed for a further three years of study contingent on satisfactory performance.

See ANTH in the Courses of Instruction section.
APPLIED PHYSICS GRADUATE PROGRAM

THE RICE QUANTUM INSTITUTE

DIRECTOR OF APPLIED PHYSICS GRADUATE PROGRAM
D. Natelson

PARTICIPATING FACULTY
This program is open to faculty from physics and astronomy, chemistry, mechanical engineering and materials science, electrical and computer engineering, bioengineering, computational and applied mathematics, and chemical and biomolecular engineering.

DEGREES OFFERED: MS, PhD
A joint effort of both the natural sciences and the engineering divisions at Rice and overseen by the Rice Quantum Institute (RQI), the Applied Physics Program (APP) is administered by a committee composed of members from the participating departments mentioned above. The objective is to provide an interdisciplinary graduate education in the basic science that underlies important technology. The faculty believes that the experience obtained by performing research at the intellectually stimulating interface of physical science and engineering is particularly effective in producing graduates who succeed in careers based on new and emerging technologies.

Due to the interdisciplinary nature of the program, students can access virtually any of the research facilities in either the natural sciences or engineering schools of Rice University. The Applied Physics Committee (APC) urges prospective students to contact individual departments or RQI for detailed descriptions of research facilities and ongoing research projects. Within RQI alone, there are more than 100 separate projects, and there are numerous other research opportunities.

DEGREE REQUIREMENTS
The Applied Physics Program (APP) offers master’s and PhD degrees. For each degree, the student must fulfill the university requirements set forth in the catalog under which he/she entered. The semester hour requirements may be fulfilled both by classroom hours and research hours. A total of nine one-semester graduate level courses is required for the master's degree in applied physics, ordinarily a requirement for advancement to candidacy in the PhD program. Four of these are core courses required of all students, and five are elective courses chosen according to individual research goals. The Applied Physics Committee (APC) may waive some course requirements for students who demonstrate a thorough knowledge of material in one or more core/elective course(s). Full requirements are available on line at rqi.rice.edu/academics/graduate/APPRequirements.pdf.

By the end of the third year in the program, all APP students should have completed the university requirements for a master's degree, fulfilled the course requirements of the APP, and defended a master's thesis in a public oral examination by a committee approved by the APC. The examination covers the work reported in the thesis as well as the entire field in which
the student intends to work toward the PhD. The examining committee votes separately on awarding the master's degree and on admission to candidacy for the PhD. The student also must fulfill the teaching requirements set by the host department to achieve candidacy. Fulfillment of all university degree requirements and successful defense of a PhD thesis in a public examination by an APC-approved committee is necessary for the PhD.

**Core courses**

*Quantum Mechanics I* (PHYS 521 or CHEM 530)

*Quantum Mechanics II* or *Statistical Physics* (PHYS 522 or PHYS 526 or CHEM 531 or CHEM 520)

*Classical Electrodynamics* (PHYS 532)

*Introduction to Solid State Physics I* (PHYS 563/ELEC 563)

It is assumed that the student has an adequate background in classical mechanics, electrostatics, and statistical and thermal physics. This background is determined from interviews or exams given to entering students by the APC or the host department.

**Elective courses (five required)**

BIOE 584 *Lasers in Medicine and Bioengineering*

BIOE 589/BIOS 589 *Computational Molecular Biophysics*

BIOE 610/PHYS 600 *Methods of Molecular Simulation/Advanced Topics in Physics*

CENG 630 *Chemical Engineering of Nanostructured Materials*

CHEM 495 *Transition Metal Chemistry*

CHEM 515 *Chemical Kinetics & Dynamics*

CHEM 520 *Classical and Statistical Thermodynamics*

CHEM 530 *Quantum Mechanics I/Quantum Chemistry*

CHEM 531 *Quantum Mechanics II/Quantum Chemistry*

CHEM 533 *Nanostructure & Nanotechnology*

CHEM 547 *Supramolecular Chemistry*

CHEM 611 *High Temperature and High Pressure Chemistry*

CHEM 630 *Molecular Spectroscopy and Group Theory*

ELEC 462 *Semiconductor Devices*

ELEC 463 *Lasers and Photonics*

ELEC 465 *Physical Electronics Practicum*

ELEC 560 *Linear/Nonlinear Fiber Optics*

ELEC 561 *Topics in Semiconductor Manufacturing*

ELEC 562 *Submicrometer & Nanometer Device Technology*

ELEC 564/PHYS 564 *Introduction to Solid State Physics II*

ELEC 565 *Topics in Quantum Semiconductor Nanostructures*

ELEC 567 *Applied Quantum Mechanics*

ELEC 568 *Laser Spectroscopy*

ELEC 569 *Ultrafast Optics*

ELEC 572 *Integrated Photonics*

ELEC 591 *Optics*

ELEC 592 *Topics in Quantum Optics (Nonlinear Optics)*

ELEC 603 *Topics in Micro- and Nanophotonics*

ELEC 691 *Seminar Topics in Nanotechnology*

MECH 679 *Applied Monte Carlo Analysis*

MECH 682 *Convective Heat Transfer*

MECH 683 *Radiative Heat Transfer I*

MECH 684 *Radiative Heat Transfer II*

MSCI 402 *Mechanical Properties of Materials*

MSCI 523 *Properties, Synthesis, and Design of Composite Materials*

MSCI 535 *Crystallography and Diffraction*

MSCI 597 *Polymer Synthesis, Soft Materials, and Nanocomposites*

MSCI 610 *Crystal Thermodynamics*

MSCI 614 *Principles of Nanoscale Mechanics*

MSCI 615 *Thin Film Failure Analysis, Measurement, and Reliability*

MSCI 623 *Analytical Spectroscopies*

MSCI 634 *Thermodynamics of Alloys*

MSCI 635 *Transformation of Alloys*

MSCI 645/ELEC 645 *Thin Films*

MSCI 666 *Conduction Phenomena in Solids*

PHYS 480 *Introduction to Plasma Physics*
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>PHYS 512</td>
<td>Ionospheric Physics</td>
</tr>
<tr>
<td>PHYS 515</td>
<td>Classical Dynamics</td>
</tr>
<tr>
<td>PHYS 516</td>
<td>Mathematical Methods</td>
</tr>
<tr>
<td>PHYS 521</td>
<td>Quantum Mechanics I</td>
</tr>
<tr>
<td>PHYS 522</td>
<td>Quantum Mechanics II</td>
</tr>
<tr>
<td>PHYS 526</td>
<td>Statistical Physics</td>
</tr>
<tr>
<td>PHYS 533/534</td>
<td>Nanostructures and Nanotechnology I/II</td>
</tr>
<tr>
<td>PHYS 537/538</td>
<td>Methods of Experimental Physics I/II</td>
</tr>
<tr>
<td>PHYS 539</td>
<td>Characterization and Fabrication at the Nanoscale</td>
</tr>
<tr>
<td>PHYS 552</td>
<td>Molecular Biophysics</td>
</tr>
<tr>
<td>PHYS 564/ELEC 564</td>
<td>Introduction to Solid State</td>
</tr>
<tr>
<td>PHYS 566</td>
<td>Surface Physics</td>
</tr>
<tr>
<td>PHYS 568</td>
<td>Quantum Phase Transitions</td>
</tr>
<tr>
<td>PHYS 571</td>
<td>Modern Atomic Physics and Quantum Optics</td>
</tr>
<tr>
<td>PHYS 572</td>
<td>Fundamentals of Quantum Optics</td>
</tr>
<tr>
<td>PHYS/ELEC 605</td>
<td>Computational Electrodynamics and Nanophotonics</td>
</tr>
<tr>
<td>PHYS 663</td>
<td>Condensed Matter Theory: Applications</td>
</tr>
<tr>
<td>PHYS 664</td>
<td>Condensed Matter Theory: Many-Body Formalism</td>
</tr>
</tbody>
</table>

No courses may be used for both core and elective courses. Due to overlap of curricula, only one from each of the pairs PHYS 521/CHEM 530, PHYS 522/CHEM 531, and PHYS 526/CHEM 520 may be used for the nine required courses.
ARCHITECTURE

THE SCHOOL OF ARCHITECTURE

DEAN
John Casbarian

PROFESSORS
William T. Cannady
Carlos Jimenez
Lars Lerup
Albert H. Pope
Gordon G. Wittenberg Jr.

ASSOCIATE PROFESSORS
Farès el-Dahdah
Dawn Finley
Christopher Hight
Sanford Kwinter
Spencer W. Parsons

ASSOCIATE PROFESSOR IN THE PRACTICE OF ARCHITECTURE
Nana Last

ASSISTANT PROFESSORS
Clover Lee
Neyran Turan

SENIOR LECTURERS
Alan Fleishacker
James Furr

LECTURERS
Tom Lord
Frank S. White

PROFESSORS IN PRACTICE
Nonya S. Grenader
Douglas E. Oliver
Danny M. Samuels
Mark Wamble

LECTURER
Stephen Fox

VISITING WORTHAM FELLOW
Eva Franch Gilabert
Robert Troy Schaum

DEGREES OFFERED: BA, BArch, MArch, MArch in Urban Design, DArch

The principal goal of the School of Architecture is to contribute to a more humane environment. The school focuses on teaching and research, the development of a broad liberal education for undergraduates in the allied sciences and arts of architecture, and professional graduate and postgraduate education in architecture and urban design. Intimate student–faculty interaction, academic freedom, and unrestricted institutional cooperation within and outside the university are distinctive qualities of the architecture degree programs at Rice.

“In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board, which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes two types of degree: the Bachelor of Architecture and the Master of Architecture. A program may be granted a six-year, three-year, or two-year term of accreditation, depending on its degree of conformance with established educational standards.

Master’s degree programs may consist of a preprofessional undergraduate degree and a professional degree, which, when earned sequentially, comprise an accredited professional education. However, the professional degree is not, by itself, recognized as an accredited degree.” —National Architectural Accrediting Board
The undergraduate programs maintain a balance between academic studies and professional practice. Lectures and other public programs, visiting faculty, scholarly presentations, and the Preceptorship Program, which provides a one-year internship in outstanding architectural offices throughout the United States, Europe, and Japan, all complement the school’s core of distinguished teachers and practitioners.

The graduate programs have three areas of emphasis: architectural design, with particular attention paid to history, theory, and practice; urban design, where the concern is the emerging form of the American city; and research in computer visualization, which uses the resources of the state-of-the-art Rice Advanced Visualization Lab.

**Degree Requirements for BA in Architecture or Architectural Studies**

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). The conditions specified here for each major also satisfy the university distribution requirements.

**BA in Architecture**—The curriculum for architecture majors is divided into a foundation sequence taken in the freshman and sophomore years and a preprofessional sequence taken in the junior and senior years. The foundation sequence consists of four semesters of design studios and other related courses in architecture. The first-semester studio develops basic design skills through directed explorations and problem-solving exercises in form, texture, color, material, and structures. In the subsequent three studios, through a carefully sequenced series of exercises, students are introduced to a broad range of architectural design issues, processes, and methods. Students are required to take four courses in the history and theory of art and architecture during the freshman and sophomore years in addition to two semesters of architectural technology. They also must complete university distribution requirements. It is recommended that students take an introductory drawing course during their first two years of study to develop visual skills.

Students who satisfactorily complete the foundation sequence may, upon approval of their major, enter the junior and senior year preprofessional sequence. The fall studios for the third and fourth years are organized around the workshop model and emphasize urban design issues, digital media applications, and comprehensive building design. The spring studios are vertically integrated, allowing students to select offerings emphasizing specialized design topics such as technology, landscape design, historical precedent, sustainable design, and project delivery systems. During the third and fourth years, students are required to take two additional technology courses and to fulfill all remaining school or university distribution requirements. Students wishing to pursue the professional degree in architecture may apply for admission to the Bachelor of Architecture (BArch) degree program during the second semester of the forth year.

**BA in Architectural Studies**—As an alternative to the preprofessional degree sequence, and open only to students who have been admitted as architecture majors and have completed the two-year foundation program, the Architectural Studies curriculum is an option. The first four semesters of the curriculum are identical to the foundation sequence of the architecture major except for the omission of one technology course. Subsequent requirements are the completion
of an additional studio and four elective courses in architecture. The program provides basic preparation for later professional study while allowing other academic interests to be pursued at greater depth.

Typical Curriculum for BA in Architecture

1st Semester
ARCH 101 Principles of Architecture I
HART 101 Introduction to History of Art
PHYS 101 Mechanics (with lab)
LPAP 101 Lifetime Physical Activities
Approved architecture-restricted distribution course in humanities

2nd Semester
ARCH 102 Principles of Architecture I
ARCH 132 Freshman Seminar
HART 102 Introduction to History of Art
LPAP 102 Lifetime Physical Activities
MATH 101 Single Variable Calculus
Approved architecture-restricted distribution course in humanities

3rd Semester
ARCH 201 Principles of Architecture II
ARCH 207 Introduction to the Design of Structures
ARCH 345 Architecture and the City I
Studio Art Elective*
Elective*

4th Semester
ARCH 202 Principles of Architecture II
ARCH 309 Design of Structures
ARCH 346 Architecture and the City II
Approved architecture-restricted distribution course in social sciences
Elective*

5th Semester
ARCH 301 Principles of Architecture III
ARCH 316 Design of Structures III
Architectural Theory Elective
Elective*

6th Semester
ARCH 302 Principles of Architecture III
ARCH 315 Structures, Practice, and Environments
Elective*
Elective*
Elective*

7th Semester
ARCH 401 Principles of Architecture IV
Elective*
Elective*
Elective*

8th Semester
ARCH 402 Principles of Architecture IV
Elective*
Elective*
Elective*

*All courses must be selected to satisfy both architecture major requirements and university distribution requirements.

Degree Requirements for a Bachelor of Architecture (BArch)
The Bachelor of Architecture program is open only to students who have completed the undergraduate preprofessional architecture program at Rice. Upon admission, students are assigned a preceptorship, which takes place immediately after receipt of the Bachelor of Arts in Architecture degree. The preceptorship program balances academic learning with professional experience. Qualified students who have been admitted to the BArch degree program are assigned to work for a year in the United States or abroad with leading
The Master of Architecture (MArch) program prepares graduates for a full range of professional activities in the field of architecture. It is offered to individuals who possess a bachelor’s degree. Students follow a course of study in all four areas of the curriculum: design; history, theory, and criticism; structures, practice, and environments; and computing, logic, and representation. These areas of study are sustained by groups of courses from which students may choose offerings according to the requirements of their particular program. Strong emphasis is given to developing design skills, logic, and imagination through an intensive series of design studio courses. Students also are required to prepare an independent thesis before graduating. A potential exists for dual degrees.

The Master of Architecture program is accredited by the National Architectural Accrediting Board. It leads to the degree of Master of Architecture, which qualifies graduates to take the state professional licensing examination after completing the required internship in an architectural office.

Programs of Study—Three program options are available at the Master of Architecture level. Options 1, 2, and 3 differ according to the bachelor’s degree received before entering the graduate program.
**Option 1**

**Seven-Semester Program**—Option 1 is offered to individuals who hold a four-year undergraduate degree with a major in a field other than architecture. Preference for admission is given to those who have completed a balanced education in the arts, sciences, and humanities. A minimum of two semesters of college-level courses in the history of art and/or architecture are recommended, as is a minimum of one semester of college-level courses in mathematics or physics. Previous preparation in the visual arts also is desirable, as are courses in philosophy, literature, and economics.

To graduate, students must complete a four-semester core curriculum (76 credit hours), which is followed by a three-semester advanced curriculum (57 credit hours). Course work in both core and advanced curricula consists of seven studios (including thesis) and 20 distribution courses (133 credit hours).

**Core Curriculum**

<table>
<thead>
<tr>
<th>1st Semester</th>
<th>Distribution Elective (History, Theory, and Criticism)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH 501 Core Design Studio I</td>
<td>Distribution Elective (Structures, Practice, and Environments)</td>
</tr>
<tr>
<td>ARCH 507 Introduction to Design of Structures</td>
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<tr>
<td>Distribution Elective (Computing, Logic, and Representation)</td>
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<tr>
<td>ARCH 645 Architecture and the City</td>
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<tr>
<th>2nd Semester</th>
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<tbody>
<tr>
<td>ARCH 502 Core Design Studio II</td>
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<tr>
<td>ARCH 509 Design of Structures II</td>
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<tr>
<td>ARCH 532 Introduction to Digital Visualization and Communication</td>
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<tr>
<td>ARCH 646 Architecture and the City</td>
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<tr>
<th>3rd Semester</th>
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<tbody>
<tr>
<td>ARCH 503 Core Design Studio III</td>
</tr>
<tr>
<td>ARCH 516 Environmental Control Systems</td>
</tr>
<tr>
<td>ARCH 683 20th-Century History of Ideas in Architecture</td>
</tr>
<tr>
<td>Distribution Elective (Computing, Logic, and Representation)</td>
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</tbody>
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<table>
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<tr>
<th>4th Semester</th>
</tr>
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<tbody>
<tr>
<td>ARCH 504 Architectural Problems</td>
</tr>
<tr>
<td>ARCH 623 Professionalism and Management in Architecture</td>
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**Advanced Curriculum**

<table>
<thead>
<tr>
<th>5th Semester</th>
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<tbody>
<tr>
<td>ARCH 601 Architectural Problems</td>
</tr>
<tr>
<td>Distribution Elective (History, Theory, and Criticism)</td>
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<tr>
<td>Distribution Elective (Computing, Logic, and Representation)</td>
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<tr>
<td>Elective</td>
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<tr>
<th>6th Semester</th>
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<tbody>
<tr>
<td>ARCH 602 Architectural Problems</td>
</tr>
<tr>
<td>ARCH 702 PreThesis Preparation</td>
</tr>
<tr>
<td>Distribution Elective (Structures, Practice, and Environments: Sustainability)</td>
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<td>Elective</td>
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<table>
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<tr>
<th>7th Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH 703 Thesis Studio or Architectural Problems and Elective</td>
</tr>
<tr>
<td>Elective</td>
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<tr>
<td>Elective</td>
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</tbody>
</table>

**Option 2**

**Five-Semester Program**—Option 2 is offered to individuals who hold a four-year undergraduate degree with a major in architecture. Preference for admission is given to those who have successfully completed between four and six semesters of undergraduate design studio as well as undergraduate courses that are analogous to those given in the first year of Option 1. A minimum of
two semesters of college-level courses in the history of art and/or architecture are recommended; as is a minimum of one semester of college-level courses in mathematics and physics.

Students in this program enter into the second year of the core curriculum (two semesters, 38 credit hours), followed by the advanced curriculum (three semesters, 57 credit hours). Course work in both core and advanced curricula consists of five studios (including thesis) and 14 distribution courses (95 credit hours).

**Option 3**

**Three-Semester Program**—Option 3 is offered to individuals who hold a professional degree in architecture (BArch) or its equivalent from a foreign university. Preference for admission is given to those who have significant practical experience in architecture and who have demonstrated high achievement in design.

To graduate, students must complete a three-semester advanced curriculum of elective courses. Course work consists of three studios (including thesis) and eight distribution courses (57 credit hours).

**1st Semester**
ARCH 503 Core Design Studio III
ARCH 516 Environmental Control Systems
ARCH 683 20th-Century History of Ideas in Architecture
Dist. Elective *(Computing, Logic, and Representation)*

**2nd Semester**
ARCH 504 Architectural Problems
ARCH 623 Professionalism and Management in Architecture
Distribution Elective *(History, Theory, and Criticism)*
Distribution Elective *(Structures, Practice, and Environments)*

**3rd Semester**
ARCH 601 Architectural Problems
Distribution Elective *(History, Theory, and Criticism)*
Distribution Elective *(Computing, Logic, and Representation)*
Elective

**4th Semester**
ARCH 602 Architectural Problems or
ARCH 702 Prethesis Preparation
Distribution Elective *(Structures, Practice, and Environments): Sustainability*
Elective

**5th Semester**
ARCH 703 Design Thesis Studio or
Architectural Problems and Elective
Elective
Elective

**Advanced Curriculum**

**3rd Semester**
ARCH 601 Architectural Problems
Distribution Elective *(History, Theory, and Criticism)*
Distribution Elective *(Computing, Logic, and Representation)*
Elective

**4th Semester**
ARCH 602 Architectural Problems or
ARCH 702 Prethesis Preparation
Distribution Elective *(Structures, Practice, and Environments): Sustainability*
Elective

**5th Semester**
ARCH 703 Design Thesis Studio or
Architectural Problems and Elective
Elective
Elective
**Thesis Requirement**—MArch Option 1 and Option 2 candidates are required to develop a thesis in partial fulfillment of graduate degree requirements. Students are asked to demonstrate their ability to independently undertake research and analysis and develop a hypothesis and a thorough demonstration of the thesis. This must take the form of either a research thesis (written thesis) or a thesis with a design demonstration (design thesis). Both thesis formats must address architectural consequences that may be derived from within or outside conventional boundaries of the architectural discipline.

Thesis preparation begins in the next-to-last semester with a three-hour independent study course leading to the submission of a thesis proposal and the selection of a thesis director plus two faculty members as readers. While the thesis is independent work carried out by the student under the direction of a chosen advisor, it is organized as a studio in the fall term of the academic year. The thesis studio provides a support setting for both formal and informal review processes throughout the thesis semester. In early January, thesis projects are reviewed by a panel of guest critics and publicly presented in the Farish Gallery.

**RSA Paris**

MArch (Option 1, Option 2, and Option 3) students may apply to RSAP for completion of one semester in Paris: Option 1 students may do so after the fourth semester, Option 2 after their second semester.

**Master of Architecture in Urban Design**

The Master of Architecture in Urban Design (MAUD) program prepares graduates for a full range of professional activities in the field of urban design. It is offered to individuals who already hold a professional degree qualifying them for registration as architects or landscape architects. The MAUD program makes extensive use of Houston as a setting for case studies and design problems. During the first year, strong emphasis is given to developing design skills, logic, and imagination through an intensive series of urban design studio courses. Three additional courses in urban history, planning, and design are required each semester. Students also are required to prepare an independent thesis during their third semester.

**Doctor of Architecture**

Admission to the Doctor of Architecture program requires either a bachelor's or master's degree in architecture and a detailed statement of research concerns and anticipated array of investigation. A student entering with a master's degree normally takes three semesters of course work before the qualifying examination. A student with a bachelor's degree normally requires two to five semesters of course work before the qualifying examination. Preparation for doctoral candidacy may include a foreign language or computer skills. Specific course requirements are established individually when a student is admitted to the program.

After successful completion of all required course work, students may apply to take the qualifying examination after submitting a prospectus outlining their research programs for the doctoral dissertation. The dissertation must represent an original contribution to knowledge in the field of architecture. Completion and successful defense of the dissertation will take a minimum of one year. University requirements for thesis (dissertation) preparation and defense must be carefully followed. The time limit for successful defense of the dissertation is established by university policy. Students should not expect to complete the Doctor of Architecture program in less than four years of full-time study.

See ARCH in the Courses of Instruction section.
Army ROTC

Professor of Military Science
Lieutenant Colonel Kurt Robinson
Associate Professor of Military Science
Captain Nicholas Catechis

The Army Reserve Officer Training Corps (ROTC) is a cadet-lead educational training program that is designed to provide college students in the greater Houston area with an opportunity to join the nation's oldest armed service, the United States Army, as a leader, a mentor, and an officer. Through Army ROTC, students will have an understanding of the core values and the professional discipline of a military career.

Upon successful completion of ROTC and baccalaureate degree requirements, students will be commissioned as a second lieutenant in the Active Army, Army Reserve, or National Guard. For more information on Army ROTC, please contact the Department of Military Science at the University of Houston by calling 713-743-3883.

Course Credit

Hosted by University of Houston, Army ROTC classes may be taken for elective credit toward any degree plan at Rice University. Freshman and sophomore level classes are open to all students. No military obligation is incurred as a result of enrollment in these courses. Junior and senior level courses are more restrictive and do require a military obligation. ROTC scholarship students also incur a military obligation.

Army ROTC courses are listed under Military Science, prefix MILI, in the Rice University General Announcements.

Freshman and Sophomore Years: Basic Leadership Course—The Basic Course takes place during your first two years in college as elective courses. It normally involves one elective class or lab each semester. You will learn basic military skills and the fundamentals of leadership and start the groundwork toward becoming an Army leader. You can take Army ROTC Basic Courses without a military commitment.

Junior and Senior Years: Advanced Leadership Course—The Advanced Course takes place during your last two years in college as elective courses. It normally includes one elective class or lab each semester, plus a summer leadership camp. You will learn advanced military tactics and gain experience in team organization, planning, and decision-making. To benefit from the leadership training in the Advanced Course, all cadets must have completed either the Basic Course or have attended the Leaders’ Training Course. Entering the Advanced Course requires a commitment to serve as an officer in the U.S. Army upon graduation.

Leadership Laboratory

As an Army ROTC cadet, each student will be required to attend an additional two-hour Leadership Laboratory. The Leadership Lab is an essential part of officer training. Labs are designed to provide hands-on experience in the application
of the cadets’ classroom instruction. A typical lab may include rappelling, water survival training, land navigation, and drill and ceremony.

**FIELD TRAINING EXERCISES**

Once a semester, all Army ROTC students will have the opportunity to leave campus and participate in a Field Training Exercise. These exercises are weekend training operations that put the students’ teambuilding and leadership skills to the test. Field Training Exercises will most likely include orienteering, obstacle courses, rappelling, squad tactical exercises, and basic rifle marksmanship.

**AROTC Scholarship Opportunities**

Students are awarded U.S. Army ROTC four-, three- and two-year scholarships through a competitive selection process. Scholarships pay full college tuition and mandatory educational fees, OR room and board, whichever is chosen by the student. If room and board is chosen, the scholarship will pay up to the amount of $10,000. An additional scholarship benefit is a designated yearly book allowance of $1,200. Army scholarship winners also receive a tax-free subsistence allowance, or stipend, which increases as they progress through Military Science, for up to 10 months for each year the scholarship is in effect.

For additional information on Army ROTC, visit our Houston area Web site at [www.uh.edu/rotc](http://www.uh.edu/rotc), or contact CPT Richard Selvera at 713-743-3826.
ART HISTORY

THE SCHOOL OF HUMANITIES

Chair
Diane Wolfthal

Professor
Joseph Manca
Diane Wolfthal

Associate Professors
Marcia Brennan
Linda E. Neagley

Assistant Professors
Graham Bader

Robert Leo Costello
Shirine T. Hamadeh
Shih-Shan Susan Huang
Gordon Hughes
Caroline Quenemoen

Postdoctoral Fellow
Francesca Leoni

Visiting Assistant Professor
Lida Oukaderova

Degrees Offered: BA, PhD

The Department of Art History offers a wide range of courses in European, American, Asian, and Middle Eastern/Islamic art history with additional strengths in architectural history and film studies. The major in art history is structured to expose students to the chronological, geographical, and methodological breadth of the field of scholarship.

Degree Requirements for BA in Art History

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5).

The Department of Art History offers three tracks within the major.

The tracks are as follows:

Regular Art History Major

Ten courses required for both double and single majors
- at least one course (200–400 level) ancient–medieval (pre-modern)
- at least one course (200–400 level) Renaissance–18th century (early modern)
- at least one course (200–400 level) 19th century to the present (modern through contemporary)
- of the ten courses, at least two must be seminars
- of the courses listed above, at least two must be outside the European and American traditions

Art History Major—History of Architecture Track

Ten courses required for both double and single majors
- at least six of the courses must focus on the history of architecture
- of the ten courses, at least one course (200–400 level) must fall in two of the following three areas: ancient–medieval (pre-modern); Renaissance–18th century (early modern); or 19th century to the present (modern through contemporary)
- of the 10 courses, at least two must be seminars
- of the courses listed above, at least one must be outside the European and American traditions
**Honors Program in Art History**

This track is reserved for those accepted into the Art History Honors Program. Students apply (via the undergraduate art history advisor) no earlier than spring of the sophomore year and no later than spring of the junior year, and once accepted, they will be assigned to a faculty mentor. Financial assistance is available for honors students to conduct research between their junior and senior years.

To remain in the Honors Program, students must maintain an overall grade point average of 3.3 or higher and receive an A or A- in both semesters of the Senior Thesis. Students who maintain a grade point average of 3.7 or higher and who receive an A in both semesters of the Senior Thesis may be awarded high honors by vote of the department. If students are not able to maintain the requirements of the honors track, they can still graduate with the regular art history major or the track in architectural history.

Twelve courses required whether single or double major

- at least two courses (200–400 level) ancient-medieval (pre-modern)
- at least two courses (200–400 level) Renaissance–18th century (early modern)
- at least two courses (200–400 level) 19th century–present (modern to contemporary)
- at least six courses must be at the 300–400 level
- of the twelve courses, at least three courses must be seminars
- two-semester senior thesis (six credits total)
- of the courses listed above, at least two must be outside the European and American traditions

It is strongly recommended that majors in art history acquire a proficiency in at least one foreign language.

In addition, art history majors are encouraged to take advantage of the opportunities provided by museum internships, study abroad programs, and travel fellowships.

**Transfer Credit**

With approval from the departmental undergraduate advisor, a maximum of four courses may be taken outside of the department and applied to the major as transfer credits or study abroad course credits. No advanced placement credits may be used to satisfy major requirements.

See also Transfer Credit (Undergraduate Students section, pages 15–16).

**Degree Requirements for PhD in Art History**

For general university requirements, see Graduate Degrees (Graduate Student section, pages 3–4).

Only applicants who intend to receive a PhD will be accepted into the program. The Department of Art History does not have an MA program, although during the course of the program a master's degree (MA) will be awarded after students have achieved candidacy and are in the process of completing the doctorate (see Schedule, below).

Entering students will each be assigned a faculty advisor, as appropriate for the intended field of study. (That faculty member will remain the advisor unless
the student later chooses someone else as the principal dissertation advisor.)
The advisor will play the key role in working with the student from beginning
to end on course selection, master's essay topic, topics for qualifying exams,
and the dissertation subject and will be in charge of monitoring the student's
progress before and after advancement to candidacy. The director of graduate
studies also will be available to offer advice to students in the program.

Beyond the courses to be offered by these regular and affiliated faculty of the
Department of Art History, students will be encouraged, when appropriate,
to take other graduate courses at Rice that are important for their field of
research. Of the courses listed in the year-by-year schedule below, up to three
may be taken in graduate courses outside the department, as approved by the
student's advisor.

A summary of the program requirements:

Courses—Satisfactory completion of at least 30 hours of graduate coursework
(500 level). One of the courses will include HART 590 Methods in Art History,
to be taken in the fall of the first year. At least two of the courses taken must
be in areas judged by the faculty advisor to be outside the student's main field
of interest, and at least half of the classes taken must be seminars. Because jobs
in the field often call for teaching expertise in more than one area, students
are encouraged to acquire breadth of knowledge in both their coursework
and the topics covered in the qualifying exams.

Substantial research paper—In the second year, one course each semester
is required (HART 690 and HART 691) towards a substantial research paper.
This paper may be an exploration of a possible dissertation topic or area.

Reading knowledge of foreign languages—Reading knowledge of one foreign
language must be demonstrated before the beginning of the second term,
and a second demonstrated before the beginning of the third year. For those
studying American or European topics, French and German are required, or
a language necessary for the student's doctoral work (e.g., Spanish or Italian)
and then knowledge of French or German. For those studying a non-Western
topic, knowledge of a language in the primary area of study is necessary, plus
French or German. Reading knowledge of one language must be demonstrated
by the end of the first semester, and knowledge of the second language must
be demonstrated by the end of the second year. Students will be able to take
advantage of the regular foreign language courses at Rice, and we will work
with the director of the Center for the Study of Languages to ensure that
students are aware of the language courses at Rice offered specifically for
graduate students. The two language examinations will be administered as
follows. The student's advisor will select a book or set of articles in the target
language that is close to the student's interest. The student will have one hour
with a dictionary to complete the translation. The exam will be graded by the
appropriate language department.

Teaching and research opportunities—In order to strengthen the job prospects
of our students, there will be an opportunity to serve as teaching assistant
or tutorial instructor, or for team-teaching or teaching classes. For those not
engaged in classroom teaching, there also will be a chance to serve as research
assistants for professors. As part of the program, all students will be expected
to be a teaching assistant, tutorial leader, teacher, or research assistant for at
least two semesters, and for as many as four semesters as an option. This will
typically happen during the third or fourth year.
Qualifying exams, with a written and oral component—The qualifying exams will be taken at the end of the fall semester of the third year and cover topics in student's major field of study and secondary fields, as agreed upon with the student's advisor and based on the student's interests and intended area of study for the doctoral dissertation. Passing the qualifying exams is necessary for continuation in the program into the dissertation phase. The exams will consist of two three-hour written exams and two one-hour oral exams to follow up on the material tested on the written part. The examining committee will consist of three persons: the principal field examiner and two other field examiners.

Doctoral thesis and defense—After a student has passed the qualifying examination, the student will work with a dissertation thesis committee composed of three members, approved by the department's graduate committee; the chair of this committee will be the student's departmental advisor, who must be part of the art history faculty; the second reader also comes from within the department; and the third reader must be from outside the department. As soon as the thesis committee approves the student's dissertation prospectus, the student must file a petition for approval of candidacy for the PhD with the Graduate Office. The term "PhD candidate" refers only to persons so certified by the Graduate Office. The university requires that students pursuing the PhD must be approved for candidacy before the beginning of the ninth semester of their residency at Rice.

PhD candidates must present an original piece of scholarly work in the form of a dissertation, equivalent to a publishable book, as the final step in completing the degree. Dissertations may be written on any subject that falls within the supervisory competence of a permanent member of the department, and the prospectus is approved by the student's advisor and a vote of the student's committee. After such a vote, the advisor will sign the student’s application for admission to candidacy.

Schedule—The program is designed to be completed in five years. However, certain fields in which the acquisition of foreign languages typically presents a hurdle (e.g., the study of non-Western art) might necessitate the expectation of a sixth year in the program.

Schedule for a student in the program would be:

Year 1: Six courses (three each semester), one to include the theory and methods seminar in the fall of the first year. The student must pass one language exam in the fall semester.

Year 2: Four courses (two in the fall semester, two in the spring) and an independent study course each semester for preparing a substantial research paper, to be completed by the end the spring semester and read by the student's advisor and one other faculty member or affiliated faculty, chosen by the advisor. Students must pass the second language exam by the end of the spring semester.

Year 3: Independent study in the fall in preparation for the written and oral qualifying exams, taken in December.

In the spring semester, the student will prepare a prospectus for the doctoral dissertation; the advisor and the rest of the thesis committee will review the prospectus and approve the topic by mid-April. At that point, the student will advance to candidacy. The MA will be awarded at that time.

During the third year, students will have the option of serving as teaching assistant, tutorial instructor, teacher, or research assistant.
Students in the third and fourth years are encouraged to apply for outside funding that will assist them with travel costs and other aspects of their thesis research.

**Year 4:** Dissertation research and writing. During the fourth year, students will have the option of serving as teaching assistant, tutorial instructor, teacher, or research assistant, unless this has happened in the third year.

**Year 5:** Dissertation research and writing. There will be a public thesis defense at the end of the fifth year (or later, if necessary).

For updated information, please go to www.arthistory.rice.edu.

**Exhibitions, Lectures, and Arts Programs at Rice and in Houston**

Houston is fortunate to have some of the best art collections in the United States. The department enjoys a strong and ongoing relationship with the local museums, in particular the Menil Collection and the Museum of Fine Arts, Houston. The department offers opportunities for students to study with local museums, galleries, and alternative art spaces by way of internship courses (HART 400, HART 401, HART 500, HART 501), summer internship working opportunities, fellowships, or collaborative events. The collections and special exhibitions of local museums are often the focus of class lectures and research papers in art history.

The department sponsors the Katherine Brown Distinguished Lectures in Art History, which bring leading scholars to Rice to speak on a wide variety of topics. The department also hosts occasional symposia and lectures in collaboration with other departments, presenting the ideas of top scholars, critics, and artists.

The Department of Art History houses the Visual Resources Center, which currently holds a broad and extensive collection of slides and digital images related to the arts for teaching and research, serving both the department and the university at large.

Exhibitions and related activities organized by the Rice University Art Gallery enrich the university and the Houston community. The Department of Visual and Dramatic Arts mounts several art and photography exhibitions each year and sponsors Rice Cinema, a public alternative film program.

See HART in the Courses of Instruction section.
Asian Studies

The School of Humanities and the School of Social Sciences

Director
Tani E. Barlow

Associate Directors
Steven W. Lewis
Richard J. Smith

Professors
Tani E. Barlow
Anne C. Klein
Jeffrey J. Kripal
Masayoshi Shibatani
Richard J. Smith
Stephen A. Tyler

Professors in the Practice
Steven W. Lewis
Diana L. Strassman

Professor Emeritus
Fred R. von der Mehden

Associate Professors
David Cook

William Parsons
Nanxiu Qian
Kerry Ward

Assistant Professors
Lisa Balabanlilar
Shih-Shan Susan Huang
Elora Shehabuddin
Elizabeth Vann

Senior Lecturers
Lilly C. H. Chen
Jonathan Ludwig
Hiroko Sato
Guatami Shah
Chao-Mei Shen

Lecturers
J. Won Han
Peiting Tsai
Meng Yeh

Degree Offered: BA

Asian Studies is an interdisciplinary major that explores the national, regional, and local cultures of Asia, past and present, with a particular emphasis on the way that these diverse cultures interact with one another and with the rest of the world. The major is built around courses in the humanities and social sciences divisions as well as two team-taught interdisciplinary core courses, Introduction to Asian Civilizations and Perspectives on Modern Asia. Some residential college courses may qualify for Asian Studies credit.

Degree Requirements for BA in Asian Studies

For general university requirements, see Graduation Requirements in this publication. The undergraduate Asian Studies major consists of 30 hours or more of course work. There are three basic requirements:

1. One foundational course: either ASIA 211/HART 211/HIST 206 Introduction to Asian Civilizations or ASIA 212 Perspectives on Modern Asia.

2. Nine additional courses drawn from at least three of the departments offering courses with predominantly Asian content. In the case of cross-listed courses, any one of the departments or programs appearing in the cross-listing can be used to satisfy this particular requirement.

Note: Of the 10 courses required for the Asian Studies major (that is, ASIA 211/HART 211/HIST 206, or ASIA 212, plus the nine additional courses mentioned above):

- Four, but no more than four, of the 10 can be Asian language courses.
  (For details on the Asian Studies language requirement, see #3 below.)
Four of the 10 must be at the 300-level or above.

3. Asian Studies majors must have the equivalent of at least two years of coursework in a single Asian language (this may include an Asian language other than those offered by Rice). As indicated above, up to four Asian language courses can be used to satisfy the 10-course Asian Studies major requirement. Students who have placed into the third year (300–level) or higher of an Asian language will have satisfied our proficiency requirement for the major. If such students continue with the same language (or decide to take another Asian language), they, too, can count up to four of these Asian language courses toward the 10-course Asian Studies major requirement.

The following courses, not all of which are taught every year, may be used to satisfy the major requirements. Note that a number of these courses are cross-listed.

**Anthropology**
- ANTH 212 *Perspectives on Modern Asia* (also offered as ASIA 212)
- ANTH 304 *Urbanization in the Third World* (also offered as ASIA 304)
- ANTH 310 *Contemporary Chinese Culture*
- ANTH 327 *Cultures of Capitalism*
- ANTH 353 *Cultures of India*

**Asian Studies**
- ASIA 140 *Introduction to Chinese Religions* (also offered as RELI 140)
- ASIA 211 *Introduction to Asian Civilizations* (also offered as HIST 206 and HART 211)
- ASIA 212 *Perspectives on Modern Asia* (also offered as ANTH 212)
- ASIA 221 *The Life of the Prophet Muhammad* (also offered as RELI 221)
- ASIA 230 *Asian Religion in America* (also offered as RELI 230)
- ASIA 231 *American Metaphysical Religion* (also offered as RELI 231)
- ASIA 232 *Religions From India* (also offered as RELI 232)
- ASIA 240 *Gender and Politicized Religion* (also offered as SWGS 240)
- ASIA 250 *Meditation, Mysticism, and Magic* (also offered as RELI 250)
- ASIA 299 *Women in Chinese Literature* (also offered as CHIN 299 and SWGS 299)
- ASIA 304 *Urbanization in the Third World* (also offered as ANTH 304)
- ASIA 315 *Taiwan’s Films since 1980* (also offered as CHIN 315)
- ASIA 322 *Introduction to Buddhism* (also offered as RELI 322)
- ASIA 323 *The Knowing Body* (also offered as SWGS 323 and RELI 323)
- ASIA 330 *Introduction to Traditional Chinese Poetry* (also offered as CHIN 330)
- ASIA 331 *South Asian Literature, Poetry, and Popular Culture I* (also offered as HIND 335)
- ASIA 332 *Chinese Literature and its Movie Adaptations* (also offered as CHIN 332)
- ASIA 333 *Chinese in Cultural Discourse* (also offered as CHIN 331)
- ASIA 334 *Traditional Chinese Tales* (also offered as CHIN 334)
- ASIA 335 *Introduction to Classical Chinese Literature* (also offered as CHIN 335)
- ASIA 340 *Gender and Politicized Religion* (also offered as SWGS 340)
- ASIA 343 *Darwin, Marx, and Confucius* (also offered as HIST 343)
- ASIA 344 *Korean Literature* (also offered as HUMA 344 and KORE 344)
- ASIA 345 *Origin and Development of Korean and Related Languages in East Asia* (also offered as HUMA 345 and KORE 345)
- ASIA 346 *Korean Culture and History* (also offered as KORE 346)
- ASIA 350 *History and Politics of Central Asia*
- ASIA 360 *China and the Chinese Diaspora*
- ASIA 361 *The Oriental Renaissance* (also offered as RELI 361)
- ASIA 371 *Traditional Chinese Painting* (also offered as HART 371)
- ASIA 372 *Chinese Art and Visual Culture* (also offered as HART 372, MDST 373)
- ASIA 385 *Chinese Art and Visual Culture* (also offered as HART 372)
<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>ASIA 389</td>
<td><em>The Indian Ocean World</em> (also offered as HIST 389)</td>
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<tr>
<td>ASIA 399</td>
<td><em>Women in Chinese Literature</em> (also offered as MDST 379 and SWGS 399)</td>
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<tr>
<td>ASIA 401/402</td>
<td><em>Independent Reading</em></td>
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<td>ASIA 422</td>
<td><em>Original Beauty of Chinese Literature</em></td>
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<tr>
<td>ASIA 432</td>
<td><em>Islam in South Asia</em> (also offered as HIST 432 and SWGS 432)</td>
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<tr>
<td>ASIA 441</td>
<td><em>Magic and Popular Religion</em> (also offered as RELI 441/525)</td>
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<tr>
<td>ASIA 473</td>
<td><em>Colonial Modernity in East Asia</em> (also offered as HIST 490)</td>
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<tr>
<td>ASIA 492</td>
<td><em>Gender Histories of Modern China</em> (also offered as HIST 492, SWGS 492)</td>
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<tr>
<td>CHIN 101/102</td>
<td><em>Introductory Chinese I and II</em></td>
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<tr>
<td>CHIN 201/202</td>
<td><em>Elementary Chinese I and II</em></td>
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<tr>
<td>CHIN 203/204</td>
<td><em>Accelerated Chinese I and II</em></td>
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<tr>
<td>CHIN 211/212</td>
<td><em>Accelerated Elementary Chinese I and II</em></td>
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<tr>
<td>CHIN 215</td>
<td><em>Classical Chinese</em></td>
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<tr>
<td>CHIN 222/223</td>
<td><em>AP Credit in Chinese Language</em></td>
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<tr>
<td>CHIN 301/302</td>
<td><em>Intermediate Chinese I and II</em></td>
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<tr>
<td>CHIN 305</td>
<td><em>Chinese for Oral Communication</em></td>
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<tr>
<td>CHIN 311/312</td>
<td><em>Accelerated Intermediate Chinese I and II</em></td>
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<tr>
<td>CHIN 313</td>
<td><em>Advanced Intermediate Chinese: Media Chinese</em></td>
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<tr>
<td>CHIN 314</td>
<td><em>Contemporary China</em></td>
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<td>CHIN 315</td>
<td><em>Taiwan’s Films since 1980</em></td>
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<tr>
<td>CHIN 316</td>
<td><em>Texts from Popular Culture</em></td>
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<tr>
<td>CHIN 318</td>
<td><em>Medical Chinese</em></td>
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<tr>
<td>CHIN 321</td>
<td><em>Structure of Chinese: Syntax and Semantics</em> (also offered as LING 321)</td>
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<td>CHIN 322</td>
<td><em>Taiwanese Language and Literature</em></td>
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<tr>
<td>CHIN 330</td>
<td><em>Introduction to Traditional Chinese Poetry</em> (also offered as ASIA 330)</td>
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<tr>
<td>CHIN 331</td>
<td><em>Chinese in Cultural Discourses</em> (also offered as ASIA 333)</td>
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<tr>
<td>CHIN 332</td>
<td><em>Chinese Literature and its Movie Adaptations</em> (also offered as ASIA 332)</td>
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<tr>
<td>CHIN 335</td>
<td><em>Introduction to Classical Chinese Literature</em> (also offered as ASIA 334)</td>
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<tr>
<td>CHIN 399</td>
<td><em>Chinese Teaching Practicum</em></td>
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<tr>
<td>CHIN 411/412</td>
<td><em>Advanced Chinese Language and Culture I and II</em></td>
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<tr>
<td>CHIN 422</td>
<td><em>Original Beauty of Chinese Literature</em> (also offered as ASIA 422)</td>
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<td>HIND 101/102</td>
<td><em>Elementary Hindi I and II</em></td>
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<td>HIND 201/202</td>
<td><em>Intermediate Hindi I and II</em></td>
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<td>HIND 398/399</td>
<td><em>Hindi Teaching Practicum</em></td>
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<td>HIST 206</td>
<td><em>Introduction to Asian Civilizations</em></td>
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<td>HIST 268</td>
<td><em>Bondage in the Modern World</em></td>
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<td>HIST 270</td>
<td><em>South Africa and Indonesia</em></td>
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<tr>
<td>HIST 271</td>
<td><em>History of South Asia to 1857</em></td>
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<td>HIST 272</td>
<td><em>Modern South Asia</em></td>
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<td>HIST 276</td>
<td><em>Raj and Resistance</em></td>
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<td>HIST 302</td>
<td><em>Traditional Chinese Culture</em></td>
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<td>HIST 310</td>
<td><em>Contemporary China</em> (also offered as ANTH 310)</td>
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<tr>
<td>HIST 319</td>
<td><em>Fortune-Tellers and Philosophers</em></td>
</tr>
<tr>
<td>HIST 320</td>
<td><em>Imperial Gardens</em></td>
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<td>HIST 341</td>
<td><em>Premodern China</em></td>
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<td>HIST 342</td>
<td><em>Modern China</em></td>
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<tr>
<td>HIST 343</td>
<td><em>Darwin, Marx, and Confucius</em> (also offered as ASIA 343)</td>
</tr>
<tr>
<td>HIST 389</td>
<td><em>Migrations and Diasporas</em> (also offered as ASIA 389)</td>
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<tr>
<td>HIST 405</td>
<td><em>Issues in Comparative History</em></td>
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<td>HIST 432</td>
<td><em>Islam in South Asia</em></td>
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<tr>
<td>HIST 490</td>
<td><em>Colonial Modernity in East Asia</em> (also offered as ASIA 490)</td>
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<tr>
<td>HIST 492</td>
<td><em>Gender Histories of Modern China</em> (also offered as ASIA 492, SWGS 492)</td>
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<tr>
<td>HIST 493</td>
<td><em>Early Modern Islamic Empires</em></td>
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<td>HIST 494</td>
<td><em>Mughal History</em></td>
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<tr>
<td>HIST 495</td>
<td><em>Comparative Modernization of China</em></td>
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<tr>
<td>HART 211</td>
<td><em>Introduction to Asian Civilization</em> (also offered as ASIA 211 and HIST 206)</td>
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<tr>
<td>HART 372</td>
<td><em>Chinese Art and Visual Culture</em> (also offered as ASIA 385, HART 372, and MDST 373)</td>
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Japanese
JAPA 101/102 Introduction to Japanese I and II
JAPA 201/202 Intermediate Japanese I and II
JAPA 222/223 AP Credit in Japanese Language
JAPA 301/302 Advanced Japanese Reading and Composition I and II
JAPA 370 Structure of Japanese (also offered as LING 370)
JAPA 398/399 Japanese Teaching Practicum
JAPA 425 Japanese for Science and Technology
JAPA 498/499 Independent Study

Korean
KORE 101/102 Introduction to Korean Language and Culture I and II
KORE 201/202 Intermediate Korean Language and Culture I and II
KORE 301/302 Advanced Korean I and II
KORE 344 Korean Literature and Culture (also offered as ASIA 344 and HUMA 344)
KORE 345 Origin and Development of Korean and Related Languages in East Asia (also offered as LING 345 and ASIA 345)
KORE 346 Korean Culture and Society (also offered as ASIA 346)
KORE 398/399 Korean Teaching Practicum

Linguistics
LING 321 Structure of Chinese Syntax and Semantics (also offered as CHIN 321)
LING 345 Linguistic Structure of Korean (also offered as ASIA 345 and KORE 345)
LING 370 Structure of Japanese (also offered as JAPA 370)

Medieval Studies
MDST 370 Introduction to Traditional Chinese Poetry (also offered as ASIA 330 and CHIN 330)
MDST 373 Chinese Art and Visual Culture (also offered as ASIA 272 and HART 372)
MDST 375 Introduction to Classic Chinese Literature (also offered as ASIA 335 and CHIN 335)
MDST 379 Women in Chinese Literature (also offered as ASIA 399 and SWGS 399)

Political Science
POLI 250 Political Economy of Gender (also offered as SWGS 250)

POLI 460 Seminar in Comparative Government

Religious Studies
RELI 131/132 Intro Tibetan Language and Culture I and II (also offered as TIBT 131/132)
RELI 221 The Life of the Prophet Muhammad (also offered as ASIA 221)
RELI 230 Asian Religion in America (also offered as ASIA 230)
RELI 231 American Metaphysical Religion (also offered as ASIA 231)
RELI 232 Religions From India (also offered as ASIA 232)
RELI 250 Meditation, Mysticism, and Magic (also offered as ASIA 250)
RELI 322 Introduction to Buddhism
RELI 323 The Knowing Body (also offered as ASIA 323 and SWGS 323)
RELI 328 Tantra in Comparative Perspective
RELI 333 Knowing Body/Glowing Mind
RELI 355 Religion and Social Change in South Asia (also offered as ASIA 355)
RELI 356 Major Issues in Contemporary Islam
RELI 361 The Oriental Renaissance (also offered as ASIA 361)
RELI 363 The Marriage of Heaven and Hell (also offered as ASIA 363)
RELI 441/525 Popular Religion in the Middle East (also offered as ASIA 441)
RELI 470 Buddhist Wisdom Texts
RELI 480/580 Sexuality, Sanctity, and Psychoanalysis (also offered as SWGS 470)

Tibetan
TIBT 131/132 Intro Tibetan Language and Culture I and II (also offered as RELI 131/132)

Women, Gender, and Sexuality Studies
SWGS 240 Gender and Politicized Religion (also offered as ASIA 240)
SWGS 250 International Political Economy of Gender (also offered as POLI 250)
SWGS 299 Women in Chinese Literature (also offered as ASIA 299 and CHIN 299)
SWGS 323 The Knowing Body: Buddhism, Gender, and the Social World (also offered as ASIA 323 and SOCI 323)
SWGS 340 Gender and Politicized Religion
(also offered as ASIA 240)
SWGS 399 Women in Chinese Literature
(also offered as ASIA 399 and CHIN 399)
SWGS 432 Islam in South Asia
(also offered as ASIA 432 and HIST 432)

SWGS 470 Sexuality, Sanctity, and Psychoanalysis (also offered as RELI 480/580)
SWGS 492 Gender Histories of Modern China
(also offered as ASIA 492, HIST 492)

See ASIA in the Courses of Instruction section.
Graduate programs in bioengineering offer concentrations in areas such as biomedical imaging and diagnostics, cellular and biomolecular engineering, computational and theoretical bioengineering, drug delivery and biomaterials, supramolecular biophysics and bioengineering, and tissue engineering and biomechanics. Research areas include biomechanical engineering, biological systems modeling, bioinformatics, biomaterials, biomedical lasers, cellular and
molecular engineering, controlled release technologies, metabolic engineering, spectroscopy, statistical mechanics, systems engineering and instrumentation, thrombosis, tissue engineering, and transport processes.

**Undergraduate Program**—The overall goal of the BS degree in bioengineering is to prepare students to succeed in professional careers by equipping them with the conceptual and technical expertise sought after by top graduate and medical schools, as well as by companies seeking technical skills in bioengineering.

The educational objectives that students are expected to exhibit or achieve after graduation with the BS degree in bioengineering from Rice University are:

- Critical problem solving skills
- Fundamental understanding of math and the natural, life, and medical sciences
- Knowledge of bioengineering principles and their applications
- Ability to conduct scientific inquiry in bioengineering
- Ability to design solutions to real-world engineering problems
- Ability to communicate and work effectively with others
- Preparation for professional challenges that arise in a rapidly-changing field

The BSB degree is organized around a core of required courses and a selection of three technical elective courses. Because of the number of options, students should consult early with departmental advisors to plan a program that meets their needs.

**Degree Requirements for BS in Bioengineering**

For general university requirements, see Graduation Requirements (pages 16–19). The curriculum for a BS degree in bioengineering requires 94 credit hours, which count toward the total of 134 hours required to graduate.

**Preparation**—As freshmen, students considering a major in bioengineering should take MATH 101 and 102, CHEM 121 and 122, PHYS 101 or PHYS 125, PHYS 102 or PHYS 126, and CAAM 210. Sophomore students should take MATH 211 and 212, CHEM 211, BIOS 201, ELEC 243 and MECH 211. BIOE 252 should be taken in the 1st semester of the sophomore year. BIOE 330, BIOE 320, and BIOE 322 should be taken the second semester of the sophomore year.

Students majoring in bioengineering must complete the following courses.

### Core Courses

**Bioengineering**

- BIOE 252 Bioengineering Fundamentals
- BIOE 320 Systems Physiology Laboratory Module
- BIOE 322 Fundamentals of Systems Physiology
- BIOE 330 Bioreaction Engineering
- BIOE 332 Thermodynamics
- BIOE 342 Tissue Culture Laboratory
- BIOE 370 Biomaterials
- BIOE 372 Biomechanics
- BIOE 383 Biomedical Instrumentation

- BIOE 385 Biomedical Instrumentation Laboratory
- BIOE 391 Numerical Methods
- BIOE 420 Biosystems Transport and Reaction Processes
- BIOE 440 Statistics for Bioengineers
- BIOE 442* Tissue Engineering Laboratory Module
- BIOE 443* Bioprocessing Laboratory Module
- BIOE 444* Biomechanical Testing Laboratory Module
- BIOE 445* Advanced Bioinstrumentation Laboratory Module
*Students must take two of the four listed advanced laboratory modules: BIOE 442, 443, 444, and 445.

Three technical elective courses, at least two of which must be at the senior level, will be required. All three elective courses must be engineering courses.

A combination of technical electives must be selected that meets a minimum of six engineering points. The technical elective courses and their engineering points will be announced in future course listings.

**Undergraduate Minor**—The Department of Bioengineering collaborates with a number of departments to offer Rice undergraduate students a minor in global health technologies (GLHT) through the Beyond Traditional Borders (BTB) initiative—a unique, multidisciplinary program to educate and train students to reach beyond traditional disciplinary and geographic boundaries to understand, address, and solve global health disparities. With complementary contributions from the humanities, social sciences, policy, bioscience, and engineering programs at Rice, the GLHT minor prepares students to integrate diverse perspectives as they develop solutions to the complex problems of global health, using the formal approach of the engineering design process.

*See GLOBAL HEALTH TECHNOLOGIES in the Departments and Interdisciplinary Programs section for minor requirements.*

**Graduate Program**—To train the next generation of leaders in bioengineering, we have built an innovative teaching program that transcends boundaries between bioengineering, basic science, and clinical medicine, integrating the academic, industrial, and societal perspectives.

Our hands-on approach to education is supported by a long standing tradition of cross-disciplinary research and education. The Rice bioengineering program is a comprehensive training program that provides student with:

- A fundamental understanding of the life and medical sciences
- Advanced analytical and engineering capabilities,
- Translational research that transfers biotechnical advances from bench to bedside

With this educational background, graduates will be well prepared to participate in independent or collaborative research and development endeavors in industry or academia.
Degree Requirements for MBE and MS and PhD in Bioengineering

For general university requirements, see Graduate Degrees (pages 61–62).

To make sure scores are available when admission decisions are made, applicants need to register to take the GRE and TOEFL as required before September for the year in which they are applying. Applicants should request transcripts and letters of recommendation before September, as well, to give senders time to get the material to Rice University by the January 15 deadline. The Graduate Admissions Committee begins its deliberations in late November. Application materials received after the January 15 deadline will not be considered. Once admitted, departmental policy requires full-time students to be registered for at least 12 credit hours each semester.

MBE Program—The Master of Bioengineering degree is intended for those having a BA or BS degree in an engineering or science discipline. To obtain a Master of Bioengineering degree, the following requirements must be completed.

• Show evidence on their undergraduate transcript of completion of fundamentals of systems physiology, cell biology, and statistics. (If courses were not taken for an undergraduate degree, they must be completed at the beginning of the MBE program. Only one of these courses may be used as credit toward the 30 hours of required courses.)
• Curriculum has to be approved by the Academic Affairs Committee of the bioengineering department. This will be done on a case-by-case basis.
• A total of 30 credit hours is required (courses must be above and beyond the requirement for the undergraduate degree). Of these 30 hours, at least 24 must be taken at Rice.
• At least 15 credit hours must be taken as BIOE courses.
• Required courses include:
  • Principles of Bioengineering Part I (BIOE 561, 3 credit hours)
  • Principles of Bioengineering Part II (BIOE 562, 3 credit hours)
  • Design and Analysis of Experiments, Module I (BIOE 548, 1.5 credit hours)
  • Design and Analysis of Experiments, Module II (BIOE 549, 1.5 credit hours)
  • Two additional BIOE elective courses (6 hours)
  • 400-level or higher MATH, STAT, or CAAM course (3 hours)
  • One additional engineering course (3 hours)
  • Three additional elective courses approved by the Academic Affairs Committee (9 hours).
• Maintain an average GPA of 3.0 or higher.

In summary, the credit hours required are:
• Completion of 30 total credit hours, with 15 credit hours of BIOE courses
• Completion of 3 credit hours of BIOS 341
• Completion of 3 credit hours of MATH 381 or 400-level or higher MATH/STAT/CAAM course
• Completion of 3 credit hours of one additional engineering course, and
• Completion of 6 credit hours of additional courses approved by the Academic Affairs Committee
• Maintain an average GPA of 3.0 or higher.

**MS Program**—Candidates for the MS degree must:
• Complete at least 18 approved semester hours of foundation, supporting, and advanced courses while maintaining a grade point average of 3.0
• MS students must earn additional credits they need for graduation by registering for the master's research course BIOE 600 during the terms they are engaged in research.
• Fulfill a teaching requirement
• Submit an original research thesis
• Defend the thesis in a public oral examination

**PhD Program**—Candidates for the PhD degree must:
• Show evidence on their undergraduate transcript of completion of fundamentals of systems physiology, cell biology, and statistics. (If courses were not taken for an undergraduate degree, they must be completed at the beginning of the PhD program. Only one of these courses may be used as credit for the 30 required courses.)
• Complete at least 30 approved semester hours of foundation, supporting, and advanced courses with high standing.
• Fulfill a teaching requirement. After their first semester in residence, students may be asked to spend the equivalent of six to 10 hours per week for a total of three semesters on teaching assignments.
• Submit a thesis proposal. PhD students must submit and successfully defend their thesis proposals by the end of their fourth semester in residence.
• Submit a thesis that provides evidence of their ability to carry out original research in a specialized area of bioengineering.
• Defend the thesis in a public oral examination.
• Graduate students take required courses and electives in the following areas:
  • Molecular, cellular, and tissue engineering
  • Imaging and optics
  • Biomaterials, biomechanics, and tissue engineering
  • Computational and theoretical bioengineering
  • Supramolecular biophysics and bioengineering

See BIOE in the Courses of Instruction section.
BIOSCIENCES

BIOCHEMISTRY AND CELL BIOLOGY

THE WiESS SCHOOL OF NATURAL SCIENCES

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Kathleen Beckingham
George N. Bennett
Daniel D. Carson
Mary C. Farach-Carson
Richard H. Gomer
Michael C. Gustin
Seiichi P. T. Matsuda
Kathleen Shive Matthews
John S. Olson
Ronald J. Parry
Michael Stern
Charles R. Stewart

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Jordan Konisky
Graham Palmer
James B. Walker

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Edward P. Nikonowicz
Yousif Shamoo

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Mary Ellen Lane
Peter Lwigale
Kevin R. MacKenzie
Luay K. Nakhleh
Jonathan Silberg
Yizhi Jane Tao
Daniel Wagner
Weiwei Zhong

DISTINGUISHED FACULTY FELLOW
Quentin Gibson

SENIOR FACULTY FELLOW
Marian Fabian

FACULTY FELLOW
Darrell Pilling

LECTURER/LABORATORY COORDINATORS
Beth Beason Abmayr
David R. Caprette
Elizabeth Eich
Dereth Phillips

ADJUNCT FACULTY
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Sarah Bondos
Richard Brennan
Richard Dixon
Daniel Feeback
Robert O. Fox
Vincent Hilser
Kendal Hirschi
Kevin G. Hoff
Olivier Lichtarge
Paolo Moretti
Timothy Palzkill
Debananda Pati
Neal Pellis
Florante A. Quiocho
Clarence Sams
Shelley Sazer
Scott Singleton
Ah-Lim Tsai
Peggy Whitson
Pernilla Wittung-Stafshede

ECOLOGY AND EVOLUTIONARY BIOLOGY

THE WiESS SCHOOL OF NATURAL SCIENCES

CHAIR
Evan Siemann

PROFESSORS
James S. Coleman
David C. Queller
Joan E. Strassman
Calvin H. Ward

ASSISTANT PROFESSORS
Amy Dunham
Nat Holland
Michael Kohn
Nicholas H. Putnam
Jennifer Rudgers
Volker Rudolf
Ken Whitney
Undergraduate Programs—The Departments of Biochemistry and Cell Biology and Ecology and Evolutionary Biology offer a broad range of courses in the biosciences: animal behavior, animal biology, biochemistry, biophysics, cell biology, developmental biology, ecology, endocrinology, evolutionary biology, genetics, immunology, microbiology, molecular biology, neurobiology, plant biology, and advanced courses in these and related areas. Students may elect a BA in biochemistry and cell biology, BA in biological sciences, BS in biochemistry and cell biology, or BS in ecology and evolutionary biology. They also may select courses from the range of topics listed above.

Core courses required of all bioscience majors:

**Biosciences**
- BIOS 201/202 Introductory Biology
- BIOS 301 Biochemistry
- BIOS 211 Introductory Experimental Biosciences
- BIOS 213 Introductory Lab in Ecology and Evolutionary Biology

**Chemistry**
- CHEM 121/122 General Chemistry with Laboratory
- CHEM 211/212 Organic Chemistry
- CHEM 215 Organic Chemistry Lab

**Mathematics**
- MATH 101/102 Single Variable Calculus I and II

**Physics**
- PHYS 125/126 General Physics I and II
  - One Group B BIOS course

**Two of the following advanced laboratory courses:**
- BIOS 311 Advanced Experimental Biosciences
- BIOS 313 Introductory Synthetic Biology

**Huxley Fellows**
- Lesley Cambell
- Tom Miller

**Professors Emeriti**
- Frank M. Fisher Jr
- Paul A. Harcombe
- Ronald L. Sass
- Stephen Subtelny

**Adjunct Faculty**
- Ricardo Azevedo
- Blaine Cole
- Tim Cooper

Yuriy Fofanov
Tony Frankino
Jeff Glassberg
Dan Graur
Nancy Greig
Adam Kuspa
Wen-Hsiung Li
Steve Pennings
Gad Shaulsky
Diane Wiernasz
Rebecca Zufall
MATH 111 and 112 may be substituted for MATH 101; CHEM 151 and 152 may be substituted for CHEM 121 and 122; CHEM 251 and 252 may be substituted for CHEM 211 and 212; PHYS 101 and 102 or PHYS 111 and 112 and their labs may be substituted for PHYS 125 and 126. See listings in the Courses of Instruction for Group A and B designations. No course may be counted more than once toward any of the major requirements.

One of the advanced laboratory course requirements can be satisfied by taking any of the following: (i) BIOS 310 or BIOS 306 if taken for at least two credits; or (ii) HONS 470/471, if the research supervisor is from one of the biosciences departments or if the research is biological in nature and preapproved by the student’s advisor; (iii) BIOS 412; or (iv) BIOS 393.

**BA in Biochemistry and Cell Biology**

In addition to the core courses required of all biosciences majors, BA majors within this option also must take:

- MATH 211 or MATH 213
- BIOS 311
- BIOS 341
- Two of the following courses: BIOS 302, BIOS 344, BIOS 352
- Two additional Group A biosciences courses, only one of which may be BIOS 401 or 402

CHEM 310 or CHEM 311 and 312 may be substituted for BIOS 352. NEUR 511/512 or BIOE 430 or BIOE 435 may be substituted for one Group A course. Students may receive credit toward the major for a maximum of three credits of BIOS 390.

**BA in Biological Sciences**

In addition to the core courses that are required of all biosciences majors, BA majors within this option must take:

- MATH 211, MATH 213, STAT 305, or BIOS 338
- One of the following advanced lab courses: BIOS 311, 313, 316, 317, 318, 320 (BIOE 342), 327, 330, 337, 393, 413, 415, 530, 532, 533, or 535
- One of the following Group A courses: BIOS 302, 341, 344, 352
- One additional Group A course
- Two Group B courses
- One additional Group A or Group B course

Only one of the courses used to satisfy these Group A and Group B requirements may be BIOS 401, 402, 403, or 404. NEUR 511/512 or BIOE 430 or BIOE 435 may be substituted for one Group A course. CHEM 310 or CHEM 311 and 312 may be substituted for BIOS 352. Students may receive credit toward the major for a maximum of three credits of BIOS 390 and three credits of BIOS 391. Students desiring to specialize in ecology and evolutionary biology can choose a Group B course for the Group A or B course and their advanced lab can be BIOS 316, 317, 327, 330, 337, or 393.

**BS in Biochemistry and Cell Biology**

In addition to the core courses required of all biosciences majors, BS majors must also take:
• MATH 211 or MATH 213
• BIOS 311
• BIOS 302
• BIOS 341
• BIOS 344
• BIOS 352 or CHEM 312/313
• Three additional Group A bioscience courses

BIOS 401/402 are recommended Group A courses in the BS degree program. NEU 511/512 or BIOE 430 or BIOE 435 may be substituted for one Group A course. CHEM 310 or CHEM 311 and 312 may be substituted for BIOS 352. Students may receive credit toward the major for a maximum of three credits of BIOS 390.

**BS in Ecology and Evolutionary Biology**

In addition to the core courses required of all biosciences majors, BS majors must also take:

• MATH 211, MATH 213, STAT 305, or BIOS 338
• One of the following advanced laboratory courses: BIOS 316, 317, 327, 330, 337, 393
• One Group A biosciences course
• BIOS 403 and BIOS 404
• Two additional Group B biosciences courses
• One additional biosciences course from Group A or B

NEUR 511 and 512 or BIOE 430 or BIOE 435 may be substituted for one Group A course. Students may receive credit toward the major for a maximum of three credits of BIOS 390 and three credits of BIOS 391.

**Advising**—Students should contact the appropriate departmental office to be assigned to an advisor. Those pursuing a BS or BA in biochemistry and cell biology should contact that department office. Those pursuing a BS in Ecology and Evolutionary Biology should contact that department office. Those electing a BA in biological sciences may choose the department that most closely corresponds to their interests, and that choice may be changed at any time. Students interested in environmental careers should consult with the ecology and evolutionary biology department for a list of recommended courses. See also Environmental Studies listings and Environmental Science Double Major.

It is recommended that the 100-level mathematics and chemistry courses be taken in the freshman year; that the 100-level physics courses and the 200-level biosciences courses be taken in either the freshman or sophomore year; and that CHEM 211, 212, 215 be taken in the sophomore year. Those with a limited background in chemistry should complete CHEM 121, 122 before taking BIOS 201, 202. Others are urged to take BIOS 201, 202 as freshmen to permit earlier access to advanced level BIOS courses. PHYS 125 and 126 are the preferred physics courses for biosciences majors. However, PHYS 101 and 102 or PHYS 111 and 112 and their labs may be taken instead by those wishing to preserve the option of majoring in a subject for which PHYS 101 and 102 are required.

Note that BIOS 311 is a prerequisite for BIOS 312, 313, and 318. This prerequisite will be strictly enforced, and majors in biological sciences whose interests are primarily in cell and molecular biology, are advised to take BIOS 311 as early as possible to allow for scheduling subsequent lab modules.

An undergraduate major in biosciences must have 48 semester hours in courses numbered 300 or higher to obtain a BA or BS degree. Students also
must complete no fewer than 60 semester hours outside the departmental requirements. These must include the courses needed to satisfy the university distribution requirements.

**Accelerated Rice BA–BS/PhD Program in Biochemistry and Cell Biology**

Qualified undergraduate students at Rice can apply to enroll in the biochemistry and cell biology graduate program in their senior year. The course requirements for graduate studies are therefore completed at the same time as the upper-level undergraduate degree requirements; laboratory research performed as part of the undergraduate thesis project can serve as the initial phases of the PhD thesis work. As a result, the graduate careers of these students will be accelerated by at least one full year, and, in principle, such students should be able to obtain their PhD degrees approximately three years after obtaining their BA or BS degree.

Criteria for selection include academic performance (GPA ≥ 3.3), GRE scores, motivation, previous research experience, and personal qualities. Selection is made by the department admissions committee.

**Mechanics of the Program**

The program requires the completion of two and one-half years (or their equivalent) of undergraduate studies at Rice before a student can be considered for enrollment in the accelerated PhD program. To continue in the program, the following requirements must be fulfilled: (1) The student must take the GRE before receiving the BA or BS degree and receive scores greater than 80 percent in the Analytical and Quantitative Tests; (2) students also must maintain at least a B average in all courses in their senior year; and (3) the usual graduate requirements will apply for continuation in the program.

**Degree Requirements for MA and PhD in Biochemistry and Cell Biology**

**Admission**—Applicants for graduate study in the Department of Biochemistry and Cell Biology must have:

- BA or BS degree in biochemistry, biology, chemistry, chemical engineering, physics, or some equivalent
- Strong ability and motivation, as indicated by academic record, Graduate Record Examination (GRE) scores, and recommendations

Although the department offers an MA degree in biochemistry and cell biology, only on rare occasions are students who do not intend to pursue the PhD degree admitted to the graduate program. The department provides a program guide titled “Graduate Handbook for Biochemistry and Cell Biology” that is updated annually. For general university requirements, see Graduate Degrees in the General Announcements.

**Both MA and PhD Programs**—Most of the formal course studies will be completed in the first year of residence to allow the students to commence thesis research at the end of their second semester at Rice. During the first year, all graduate students will be advised by the Graduate Advisory Committee. This committee will determine the formal course program to be taken during the first year in residence. Students are required to have training in biochemistry, cell biology, genetics, and physical chemistry or biophysics. If students are missing formal training in these subjects, they are required to take the equivalent background courses during their first year. The corresponding courses at Rice include the following:
All PhD students are required to take the following graduate-level courses:

- BIOS 575 Introduction to Research
- BIOS 581, 582 Graduate Research Seminars
- BIOS 583 Molecular Interactions
- BIOS 587 Research Design, Proposal Writing, and Professional Development
- BIOS 594 Responsible Conduct of Research
- BIOS 599 Graduate Teaching (in second year)
- BIOS 701/702 Graduate Lab Research (rotations in first year)

Students must also take two units from the following set of advanced courses:

- BIOS 525 Plant Molecular Biology (one unit)
- BIOS 530, 532, 533, 535 Graduate Laboratory Modules in Molecular Biophysics (1/2 unit each)
- BIOS 544 Developmental Biology (one unit)
- BIOS 545 Advanced Molecular Biology and Genetics (one unit)
- BIOS 551 Molecular Biophysics (one unit)
- BIOS 552 Molecular Biophysics II (one unit)
- BIOS 588 Advanced Cell and Developmental Biology (one unit)

Students should complete BIOS 583 and BIOS 587 in their first year, and they will be responsible for the content of those course programs in their admission to candidacy examinations (see below). Students also gain teaching experience by serving as discussion leaders and graders in undergraduate sections during their second year. Safety and ethics presentations are provided for first-year students.

**Evaluation of Progress in Graduate Study**—The Graduate Advisory Committee evaluates each student’s undergraduate record and recommends course work based on the requirements. Thesis advisors may require additional courses before taking the admission to candidacy examination.

At the end of each semester, the department chair, in consultation with the faculty, reviews student performance in formal course work. Students must maintain at least a B average, perform satisfactorily in BIOS 701/702, and demonstrate outstanding motivation and potential for research. Thesis lab assignments are made based on student and faculty preferences following research rotations.

Evaluation after the first year includes:

- Ongoing review of research progress by the thesis advisor
- A research progress review examination given each year by the student’s Research Progress Review Committee
- Presentation of research progress at least once a year until submission of a complete doctoral thesis
- Completion of an oral admission to candidacy examination before the end of the student’s fourth semester
- Defense of the PhD thesis research and text in a final public seminar presentation and oral examination attended by the student’s thesis committee

**MA Program**—All the above requirements and evaluation procedures apply to MA candidates with the following exceptions. The research progress review examination held during the MA student’s second full year, which is identical in format to that for PhD students, replaces the admission to candidacy examination; no other preliminary examination is held before the final oral defense of the master’s thesis. MA candidates must complete a thesis and
make a public oral defense of their research work to their thesis committee and other interested parties.

Degree Requirements For MS, MA, and PhD in Ecology and Evolutionary Biology

Admission—Applicants for graduate study in the Department of Ecology and Evolutionary Biology must have:

- BA or BS degree or equivalent that provides a strong background in biology
- Strong ability and motivation, as indicated by academic record, Graduate Record Examination (GRE) scores, and recommendations
- Scores from the GRE Biology subject exam are optional but can be helpful, particularly for student with nontraditional backgrounds in biology

These requirements do not preclude admission of qualified applicants who have majored in areas other than biology. Although the department offers MA and MS degrees, only on rare occasions are students who do not intend to pursue the PhD admitted to the graduate program.

Students should have completed course work in physics, mathematics (including calculus), and chemistry (including organic chemistry) prior to admission. Deficiencies in these subject areas or in specific areas of biology should be made up during the first year of residence; some may be waived at the discretion of the student's advisory committee and the department chair.

Entering students will meet with a faculty advisor to form a course of study of the first year. All first year students will complete the core course in ecology and evolutionary biology (BIOS 569) in their first semester. All graduate students are required to complete BIOS 585/586 (Graduate Seminar in Ecology and Evolutionary Biology) and two semesters of BIOS 591 (Graduate Teaching). Students must maintain a grade average of B in courses taken in the department and satisfactory grades in courses taken outside the department.

Students must demonstrate satisfactory progress in their degree program in annual reviews by a departmental committee. The review process requires that each student present a public seminar on their research, prepare a written report on their progress, and participate in an interview with the departmental committee. For general university requirements, see Graduate Degrees (in General Announcements).

MS Program. In addition to the general university requirements and those listed above, the master of science in ecology and evolutionary biology requires at least 10 hours of research credit.

MA Program. In addition to the general university requirements and those listed above, the master of arts in ecology and evolutionary biology requires the completion and public defense of a thesis embodying the results of an original investigation.

PhD Program. In addition to the general university requirements and those listed above, the PhD degree in ecology and evolutionary biology requires:

- Passing the admission to candidacy examination given by the Graduate Thesis Committee. (Committee will be composed of at least four members. At least three must be members of the EEB graduate faculty.)
- Complete an original investigation and a doctoral thesis with the potential to produce publications in reputable, peer-reviewed scientific journals
- Present a departmental seminar on the research
- Publicly defend the doctoral thesis
BUSINESS

THE JESSE H. JONES GRADUATE SCHOOL OF BUSINESS

Dean
William H. Glick

Associate Dean of Academic Affairs
Jeff Fleming

Associate Dean of Executive Education
D. Brent Smith

Assistant Dean of Degree Programs
Sean O. Ferguson

Professors
Kerry Back
Jeff Fleming
Jennifer M. George
G. Anthony Gorry
Thomas Hemmer
Robert E. Hoskisson
Ajay Kalra
George Kanatas
Vikas Mittal
H. Albert Napier
Karen K. Nelson
W. Gerard Sanders
P. Seethu Seetharaman
Wilfred C. Uecker
Robert A. Westbrook
Edward E. Williams
Duane Windsor
Stephen A. Zeff
Jing Zhou

Research Professors
Robert Bixby
Marc J. Epstein

Associate Professors
Shannon Anderson
R. Randy Batsell
Sharad Borle
Alexander Butler
Utpal Dholakia
Jefferson Duarte
Gustavo Grullon
Prashant Kale
Balaji Koka
Haiyang Li
Barbara Ostdiek
Amit Pazgal
Douglas A. Schuler
D. Brent Smith
James Weston
Sally Widener
Yuhang Xing
Yan “Anthea” Zhang

Assistant Professors
Margaret Cording
Steven Crawford
Erik Dane
Nishad Kapadia
Sebastien Michenaud
Bradley Paye
Andrew Perkins
Richard A. Price III
Brian R. Rountree
Siddharth S. Singh
Scott Sonenshein
Dinah Vernik

Emeritus Professors
Bala G. Dharan
Ronald N. Taylor

Professors in the Practice of Management
William Arnold
Jack M. Gill
Michael Grojean
Vincent Kaminski
Stephen E. Whitney

Visiting Professors
John Hund

Senior Lecturers
Jill Foote
John Kimball Kehoe
Elizabeth O’Sullivan
Gale Wiley

Full-time Lecturers
Kim Kimmey
Beata Krupa
Rick Schell
David Tobin

Adjunct Professors
Laura Arnold
Barbara White Bryson
Lee-Ken Choo
T. Kevin DeNicola
Jerry E. Finger
Robert N. Flatt
S. Scott Gaille
Blair Garrou
Shawn Gross
John K. Hannan
Robert Hatcher
Terry Hemeyer
Ismael Hernandez
Ned Hill
Martin Lin
Leo Linbeck III
J. Benton Mayberry
Marise Mikulis
Stephanie Rudd
Sean Self
Laurence Stuart
David Van Horn
Atul Varadhachary
Randy Woelfel

Part-time Lecturers
Clifford Atherton
John Baker
Lawrence Hampton
Kenny Kurtzman
Shahid Malik
Jerlyn Mardis
Connie Merril
Charles Jay Morris
Dennis E. Murphree
John M. Palizza
Phaedon Papadopoulos
Nancy Sauer
David Skinner
Robert D. Ulrich
V. Richard Viebig, Jr.
Dan Watkins

Courtesy Appointments
Linda Driskill
Mikki Hebl
David Lane
**Degrees Offered: MBA, PhD**

The Jesse H. Jones Graduate School of Business (JGSB) was established in 1974 through a gift from Houston Endowment, Inc. The JGSB offers a minor in business (BUSI) for undergraduate students, a master's of business administration (MBA) program for graduate students seeking to further their professional careers in business, and a PhD program for graduate students seeking careers in research and teaching.

**Business Minor**

The business minor consists of six integrated courses designed to provide a strong foundation in the essential disciplines of business and to develop students' critical thinking and communication skills. All courses in the minor are taught by JGSB faculty. Rick Schell is the program director and advisor.

**Requirements for Completing the Business Minor**

Students must complete the following six courses:

- BUSI 296 Business Communications
- BUSI 305 Financial Accounting
- BUSI 310 Leading People in Organizations
- BUSI 343 Financial Management
- BUSI 380 Marketing
- BUSI 471 Strategic Management

Students may receive transfer credit for at most two of the six courses necessary to complete the minor. Students must earn a grade point average of at least 2.0 in the BUSI courses taken at Rice.

**Admission**

BUSI courses are open to any undergraduate student who meets enrollment requirements, not just to students who have declared an intention to complete the minor, and to graduate students on a space-available basis. MBA-level courses (MGMT, MGMP, and MGMW) are not open to undergraduate students.

**Prerequisites**

Enrollment in most BUSI courses requires completion of instruction in economics and statistics. Students can satisfy these requirements by successfully completing STAT 280 and ECON 370 or by receiving permission from the program director. The program director will only approve requests for STAT 280 for students who have successfully completed an equivalent statistics course at Rice, and the program director will only approve requests for ECON 370 for students who have successfully completed ECON 211 at Rice.

BUSI 343 and BUSI 471 require completion of other BUSI courses. The program director will not approve requests to waive the prerequisites for these two courses.

*See the course descriptions for details on prerequisites.*

**Enrollment Lottery**

Each section of BUSI 296 is capped at 30 students and each section of the other BUSI courses is capped at 60 students. All students who have fulfilled the relevant prerequisites may register for courses during the registration period. If a given course is oversubscribed, the JGSB will conduct a weighted lottery.
to determine which students will be admitted to the course. The lottery will
give greater preference to students who have successfully completed a greater
number of BUSI courses and are closer to graduation.

**Declaration of the Business Minor**

To declare the BUSI minor, students must bring a completed declaration form
and transcript to the program director for review and signature. The form is
available on Esther.

**MBA Programs**

The MBA degree can be obtained via the full-time MBA Program, the MBA
for Professionals Program, or the MBA for Executives Program. The Executive
and Professional MBA Programs are designed for executives and working
professionals who do not wish to interrupt their careers while they pursue
MBA degrees. The Executive and Professional MBA Programs feature similar
content and the same faculty as the traditional two-year MBA Program but
have a different delivery format. The MBA for Professionals Program meets
on an evening format or an alternating weekend format. The Executive MBA
Program meets on alternating Friday and Saturdays.

A joint MBA/Master of Engineering Program is offered by the JGSB and the
George R. Brown School of Engineering, in any of the departments of engineering.
This program prepares students to become managers in organizations requiring
a high level of technical expertise and management skills.

A joint MBA/MD Program is offered by the JGSB and Baylor College of Medicine.
This program prepares students to become both physicians and managers
in institutions involved in the delivery of high-quality health care, as well as
biotechnology-focused industries, health insurance/managed healthcare firms,
and pharmaceutical and medical supply and equipment companies.

**MBA Admission Requirements**

For general information, see Admission to Graduate Study (Graduate Students
section, pages 2–3). Applicants to the MBA Program must submit scores on
the Graduate Management Admission Test (GMAT) rather than the Graduate
Record Examination (GRE), and, unless they received an undergraduate degree
from a U.S. college or university, foreign nationals whose native language is not
English must submit recent scores on the Test of English as a Foreign Language
(TOEFL). Admission to the MBA Program is open to students regardless of
their undergraduate major, but it is highly selective and limited to those who
have performed with distinction in their previous academic work and on the
GMAT.

**The MBA and MBA for Professionals Programs**—Although the MBA and
MBA for Professionals Programs do not have specific prerequisite courses
required for admission, students may find it beneficial to have a background that
includes undergraduate course work in principles of accounting, principles of
microeconomics, and mathematics. Because spreadsheet and word-processing
software are used extensively in course work, students should have a thorough
understanding of these types of software packages before enrolling.

**MBA for Executives**—In addition to meeting the standards for admission to
the other MBA programs, students admitted to the executive program typically
have at least 10 years of relevant work experience.
MBA/Master of Engineering Program—To enter this dual degree program, applicants must be accepted by both the JGSB and the engineering department in which they wish to pursue graduate study. The program requires the JGSB application, three letters of recommendation, the GRE, and the GMAT. Some engineering departments require advanced tests as well.

MBA/MD Program—To enter this dual degree program, applicants must first be accepted by Baylor College of Medicine and apply separately to the JGSB. The MCAT is accepted rather than the GMAT. Two years of medical school are required before starting MBA classes.

Degree Requirements for the MBA Program

The MBA Program requires the completion of 60 credits of course work over a two-year period. Students must register for 15 credits of course work in all four semesters of residence and are not allowed to take more than 18 credits in any semester. The first year of the program is primarily dedicated to core courses in the basic functional areas of business. Students have the option of taking one elective course during the second semester of the first year. During the second semester of the first year, students participate in a team-based Action Learning Project (ALP) in which they work at a company to solve a specific business problem. This project is the first-year capstone learning activity; it allows students to apply and integrate management principles learned throughout the first year of the program in a practical setting. The second year of the program is dedicated to elective course work.

All registration and elective selection via drop/add is completed on-line through ESTHER (esther.rice.edu), and it is the responsibility of the student to monitor and maintain his or her schedule and academic record. All schedule changes require the approval of the MBA Program Office. The school, which must approve all courses, monitors the student registration process to ensure the correct sequence of required first-year courses for each entering class.

Waivers and Transfers of Credit—At its sole discretion, the school may allow students to transfer up to a maximum of six credits. This does not necessarily reduce the residence requirement, but it does make additional elective courses available. Students otherwise must follow the prescribed curriculum of study and are not allowed to waive any core requirements.

Areas of Interest—Students have the option of selecting up to two functional or professional concentration options. Concentrations include: accounting, entrepreneurship, energy, finance, global business, marketing, management consulting, and mastering creativity and innovation. Concentrations typically consist of nine to 12 credit hours of course work. If a student completes two concentrations, a maximum of three credits can be shared between the two concentrations. Similarly, a custom core course can be counted toward the completion of a concentration only if the student has taken two other custom core courses which can be counted toward the custom core requirement. Specific concentration requirements for the 2009–10 academic year are located in the resource section for the MBA Program Office OwlSpace area.

Degree Requirements for the MBA for Professionals Program

The MBA for Professionals Program is offered in two formats: an evening format and a weekend format. Both formats require the completion of 57 credits of course work over a two-year period. The program is a lock-step progression in which students take required courses in sequence; students must take at least
nine elective courses in the second year in order to fulfill their graduation requirements.

There are no formal elective concentrations in the MBA for Professionals Program. Students may informally pursue one or more areas of interest from among the following: accounting, entrepreneurship, finance, general management, international business, information technology, marketing, operations management, organizational behavior and human resource management, healthcare management, and strategic management and planning. The MBA Program Office and individual faculty members offer students advice on course selection.

All registration and elective selection via drop/add is completed on-line through ESTHER (esther.rice.edu), and it is the responsibility of the student to monitor and maintain his or her schedule and academic record. All schedule changes require the approval of the MBA Program Office. The school, which must approve all courses, monitors the student registration process to ensure the correct sequence of required first-year courses for each entering class.

**Degree Requirements for the MBA for Executives Program**

The MBA for Executives Program requires the completion of 57 credit of course work over a two-year period. The program is a lock-step progression in which students take required first-year courses in sequence; students must take at least nine elective courses in the second year in order to fulfill their graduation requirements.

There are no formal elective concentrations in the MBA for Executives Program. Students may informally pursue one or more areas of interest from among the following: accounting, entrepreneurship, finance, general management, international business, information technology, marketing, operations management, organizational behavior and human resource management, healthcare management, and strategic management and planning. The MBA for Executives Program director and individual faculty members offer students advice on course selection.

**Degree Requirements for the MBA/Master of Engineering Program**

Students may earn this nonthesis engineering degree in the fields of chemical engineering, civil engineering, computational and applied mathematics, computer science, electrical and computer engineering, environmental science and engineering, mechanical engineering and materials science, and statistics. Ordinarily, the engineering degree takes one academic year to complete, whereas the MBA requires two. Joint-degree candidates, however, can fulfill requirements for both degrees in two academic years.

For the joint MBA/master of engineering degree, students must complete:

- At least two academic years in residence at Rice
- 63 semester hours in approved course work:
  - 24 hours in an engineering discipline
  - 39 hours in business
Students plan their course schedules in consultation with the engineering department in which they are enrolled and with the MBA Program Office.

**DEGREE REQUIREMENTS FOR THE MBA/MD PROGRAM**

Students can earn both MBA and MD degrees in five years. They divide their time as follows:

- **Years 1 and 2**—medical training at Baylor College of Medicine
- **Year 3**—first-year MBA core courses at Rice, plus a three-credit healthcare management course in the spring semester. MBA/MD students are required to fulfill only one custom core class requirement.
- **Year 4**—Second-year MBA elective courses, including a three-credit healthcare management course at Rice in the fall semester, and medical training at Baylor College of Medicine in the spring semester.

Students use the summer between the third and fourth years to perform healthcare research programs or externships. Students receive their MBA degree from Rice after they have completed 45 hours of approved management course work; they receive their MD degree after they have completed the requirements specified by Baylor College of Medicine.

**ACADEMIC AND PROFESSIONAL STANDARDS**

Students must meet both academic and professional standards to continue academic work and to graduate. In accepting admission to the MBA Program, all students agree to be governed by the standards and procedures for dismissal or disciplinary action stated below.

**Academic Standards**—A minimum cumulative grade point average of 3.00 (B) is required for graduation. All courses taken for the MBA degree (including approved courses taken at the university but outside the JGSB) are counted in the cumulative grade point average calculation.

Students with a cumulative grade point average lower than 3.00 at the end of any semester will be notified of dismissal and may no longer register for courses. A student who has been notified of dismissal may appeal to the Academic Standards Committee of the JGSB. The committee will decide, based on the circumstances of the appeal, whether the student (1) may resume studies on probation, (2) is to be suspended for 1 semester or an academic year, or (3) is to be dismissed from the MBA Program.

Students proposing to return after a period of academic suspension must apply to the Academic Standards Committee and receive permission to be readmitted. Only grades of C and higher are counted for credit toward graduation. If students receive a grade lower than C in a course required for graduation, they must repeat the course. If students receive a grade lower than C in an elective course, they need not repeat the specific course, but they must make up the hours.

Students may retake a failed course only once and then only if their cumulative grade point average is 3.00 or higher or if they have received the permission of the Academic Standards Committee to do so. Students who fail a course twice will be notified of dismissal. (Students may not take any course for which the failed course is a prerequisite until they pass the prerequisite course.)

Students on academic probation cannot be candidates for student offices, cannot graduate or drop courses, and must complete all future courses with a grade of C or above. Students are removed from probation only upon achieving
a cumulative grade point average of at least 3.00 at the end of the following semester of work.

Students who have completed the required number of hours for the MBA degree, the joint MBA/master of engineering degrees or the joint MBA/MD degree, but who have a cumulative grade point average lower than 3.00, are dismissed without graduation. If, in an appeal to the Academic Standards Committee, a student can substantiate a claim of extenuating circumstances, i.e., those beyond the student's control, the student will be permitted to take additional course work at the university within the next year to raise his or her grade point average to 3.00.

JGSB students may not take courses pass/fail to count toward their degree requirements. JGSB students may audit courses with departmental approval. The courses will not count toward the MBA, but will appear on the transcript.

**Professional Standards**—MBA students are held to the high standards of professional conduct expected of managers—standards substantially exceeding those expected of them simply as students. Students may be dismissed or suspended for failure to meet professional standards, as defined in the University Code of Conduct. The dean may place a student on disciplinary probation for unacceptable conduct, giving oral and written notice that future misconduct will lead to filing of specific charges. (This probationary notice, however, is not required as a precondition for filing specific charges.)

**GUIDELINES FOR APPEALING ACADEMIC DISMISSAL**

**The Process**—A student who wishes to appeal a dismissal should address the following issues in a letter to the Academic Standards Committee. The student must send the letter to the chair of the Academic Standards Committee. The following questions should be answered in the appeal letter.

1. What circumstances led to your academic performance last semester and to what degree were those circumstances beyond your control?
2. If your performance in a particular course(s) last semester was below par, describe any circumstances specific to that course that explain your performance.
3. Do you expect the circumstances that created the problems for you last semester to change next semester? If so, how?

Students also may include any additional information that they deem relevant in the appeal letter.

**Timing**—Timing is critical in the appeals process because classes start immediately after the grades are distributed in January. The student must inform the MBA/EMBA/PMBA Program director (by e-mail or written note) immediately of the intention to appeal. The appeal letter to the committee must then be filed expeditiously, within or sooner than the first week of classes. If a student plans to appeal, he/she should attend classes in January without registering. It is important to keep up in his/her studies during the appeal process. If his/her appeal is accepted, the student may register later with a letter from the MBA Program Office.

**Appeals**—Appeals beyond the Academic Standards Committee must go to the dean of the JGSB, who may seek guidance from other constituents of the school. All decisions rendered by the dean are final.

**Confidentiality**—The Family Educational Rights and Privacy Act of 1974 and amendments govern the records of actions related to appeals.
Grade Appeal Process

Once a course grade has been assigned by an instructor, it is generally considered final and is rarely changed for any reason other than calculation errors. The procedure below outlines the process by which a student may appeal a course grade.

1. The student should first pursue any grading question with the instructor following whatever formal or informal process the instructor has outlined for the course.

2. If the matter is not resolved in step 1 above, the student must file a written appeal to the instructor and send a copy to the MBA/EMBA/PMBA Program director or director of Student Services. This written appeal must be filed no later than 45 days after the last day of finals for the term (mini-semester) in which the course was offered.

3. The instructor must schedule a meeting with the student within two weeks of receiving the written appeal to further discuss the appeal with the student. Notice of the appeal time and date will be provided by the instructor to the MBA/EMBA/PMBA Program director or director of Student Services.

4. If step 3 does not resolve the issue to the satisfaction of both parties, the student may appeal to the Academic Standards Committee by sending a written notice describing the grounds for the appeal within two weeks of the date of the scheduled meeting in step three.

5. The Academic Standards Committee will seek out information on the appeal from the instructor and the student and, at its discretion, hold a hearing to further consider the matter. The decision of the Academic Standards Committee will be rendered within six weeks of receiving a written notice of appeal (step 4).

6. Appeals beyond the Academic Standards Committee must go to the dean of the JGSB, who may seek guidance from other constituents of the school. All decisions rendered by the dean are final.

7. In the event that the protested grade is necessary for the student to graduate, an accelerated schedule will be followed.

8. The Family Educational Rights and Privacy Act of 1974 and amendments govern records of these actions.

ALP Grade Appeal Policy for an Individual Student

The procedure below outlines the process by which an individual student may appeal a grade in the ALP course.

1. The student must send a letter of intent to appeal the grade to the director of ALP. This written appeal must be filed no later than 30 days after the last day of term four. A copy of the letter must be sent to the director of the Student Services for the full-time MBA Program.

2. The director of ALP must schedule a meeting with the student and the director of Student Services for the full-time MBA Program by the end of term 1 during the following year to discuss the appeal with the student further. The purpose of the meeting is to review with the student the basis for the individual grade. The director of ALP will provide the meeting time to the director of Student Services for the full-time MBA Program.

3. Up until this time, all information relevant to the case is confidential. If the student desires to talk with ALP faculty or ALP team members about the
matter, this will require the student to waive confidentiality with respect to the matter of the downgrade status. The student must notify the director of ALP about his/her preference to waive confidentiality. Upon receiving the request to waive confidentiality from the student, the director of ALP will apprise all related parties that an appeal is under way, that they are not obligated to discuss the matter with the appealing student, and that their confidential peer evaluations have not been shared with the appealing student. The student must wait for permission from the director of ALP before contacting team members and/or faculty liaisons.

4. If step 2 does not resolve the issue to the satisfaction of both parties, the student may appeal to the director of ALP by sending a written notice describing the grounds for the appeal within two weeks of the date of the scheduled meeting in step 2. A copy of the letter must be sent to the director of Student Services for the full-time MBA Program. The director of ALP will render a decision within three weeks of receiving the written notice.

5. If step 3 does not resolve the issue to the satisfaction of both parties, the student may appeal to the Academic Standards Committee by sending a written notice describing the grounds for the appeal within two weeks of the decision rendered by the director of ALP in step 3. A copy of the letter must be sent to the director of ALP and the director of Student Services for the full-time MBA Program.

6. The Academic Standards Committee will seek out information on the appeal from the director of ALP, ALP faculty, and the student and, at its discretion, hold a hearing to further consider the matter. The decision of the Academic Standards Committee will be rendered within 6 weeks of receiving a written notice of appeal (step 4).

7. Appeals beyond the Academic Standards Committee must go to the dean of the JGSB, who may seek guidance from other constituents of the school. All decisions rendered by the dean are final.

8. In the event that the protested grade is necessary for the student to graduate, an accelerated schedule will be followed.


ALP Grade Appeal Policy for a Student Team

The procedure below outlines the process by which an ALP student team may appeal a grade in the ALP course.

1. The student team must send a letter of intent to appeal the grade to all members of the faculty team. This written appeal must be filed no later than 30 days after the last day of term four. All team members must sign the letter. A copy of the letter must be sent to the director of ALP and to the director of Student Services for the full-time MBA Program.

2. The faculty team must schedule a meeting with the student team by the end of term one of the following year to further discuss the appeal with the student team. The faculty team will provide the meeting time to the director of ALP and to the director of Student Services for the full-time MBA Program.

3. If the matter is not resolved in step 2 above, the student team must file a written appeal to the director of ALP within two weeks of the date
of the scheduled meeting in step 2. All team members must sign the letter. The director of ALP must schedule a meeting with the student team within two weeks of receiving the written appeal to further discuss the appeal with the student team. The director of ALP will provide the meeting date to the director of Student Services for the full-time MBA Program.

4. If step 3 does not resolve the issue to the satisfaction of both parties, the student team may appeal to the Academic Standards Committee by sending a written notice describing the grounds for the appeal within two weeks of the date of the scheduled meeting in step 3. All team members must sign the letter. A copy of the letter must be sent to the director of ALP and to the director of Student Services for the full-time MBA Program.

5. The Academic Standards Committee will seek out information on the appeal from the faculty team, the director of ALP, and the student team and, at its discretion, hold a hearing to further consider the matter. The decision of the Academic Standards Committee will be rendered within 6 weeks of receiving a written notice of appeal (step 4). A copy of the decision must be sent to the director of ALP and to the director of Student Services for the full-time MBA Program.

6. Appeals beyond the Academic Standards Committee must go to the dean of the JGSB, who may seek the guidance from other constituents of the school. All decisions rendered by the dean are final.

7. In the event that the protested grade is necessary for the student to graduate, an accelerated schedule will be followed.

8. The Family Educational Rights and Privacy Act of 1974 and amendments govern records of these actions.

**MBA Elective Course Drop/Add Policy and Procedures**

Due to the unique term schedule followed by the JGSB’s MBA Programs, MBA students have special procedures they must follow to make schedule changes. The MBA Program Office administers a drop/add policy which allows students to drop/add elective courses at various times throughout the semester. Below are the procedures for adding or dropping a course. Students should contact the MBA Program Office for assistance.

All schedule changes must be approved by the MBA Program Office prior to the drop/add deadline (either via email or in person) and before the student makes any schedule changes on ESTHER (esther.rice.edu/). All class rosters are updated in the MBA Program Office and sent to instructors for enrollment counts and attendance records.

If student is taking a 1.5 CREDIT course:

1. A student may drop/add a course, including section changes for second-year core courses, with permission from the MBA Program Office by the deadline for the 1.5 credit drop/add period for the appropriate term.

2. A student must attend the first class, and may not miss a class during the first week.

3. A student may not add or drop a course after the deadline (see add/drop deadlines below for the 2009–10 academic year).
If student is taking a 3 CREDIT course:

1. A student may drop/add a course, including section changes for second-year core courses, with permission from the MBA Program Office by the deadline for the 3.0 credit drop/add period.
2. A student must attend the first class and may not miss a class during the first week.
3. A student may not add or drop a course after the deadline.

MBA Elective Course Drop/Add Deadlines: 2009–10
All schedule changes must be submitted and approved by the MBA Program Office no later than 5 p.m. of the drop/add deadline.

MBA – Fall 2009

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MBA For Professionals — Fall 2009

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MBA For Professionals — Spring 2010

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<th>Credits</th>
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<td>February 5, 2010</td>
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MBA Course Registration Policy for non-JGSB Rice University Students

Graduate students from outside the JGSB may register for elective courses in the full-time MBA Program and the MBA for Professionals Program. To be eligible for a specific course, a student must be in good academic standing (3.0 GPA or above), have permission from the student’s department advisor, and have satisfied the specified course prerequisites. In order to register for the course, the student should verify eligibility with the MBA Program Office and then request approval from the course instructor. Non-JGSB students may not register for elective courses in the MBA for Executives Program or core (required) courses in any of the school’s MBA Programs.
Rice undergraduate students are not allowed to register for any MBA-level courses (MGMT, MGMP, or MGMW) offered at the JGSB.

**Independent Study**

**Minimum Hours Requirement**—Each credit of independent study should contain approximately as much time content as a one-credit course at JGSB, which is 12 hours of class time, plus an average of at least 24–36 outside-class hours, for a minimum total of 36–48 hours of work. Independent study projects can be accommodated in increments of 1, 1.5, 2, or 3-unit independent study; 3-unit independent study projects should be less frequent. Credits will be apportioned based on the ratio provided above. Occasionally, a group independent study project may arise, though most independent studies will be undertaken by individual students.

The number of credits for an independent study should be negotiated at the beginning of a project. Increases to the number of project credit hours after the project overview has been filed with the MBA Program Office must be approved by the Academic Standards Committee. The committee will rely on input from sponsoring faculty in making its decision about ex post credit increases. Requests to increase the number of project credit hours must be made before the end of the second week of classes in the term in which the project begins, except when a student is in their last semester, in which case such requests must be made before the end of the second week of the semester.

**Restrictions**—No student may take more than three credit hours of independent study during the course of the MBA Program without the approval of the Academic Standards Committee. If an independent study is proposed that would cause a student to exceed the three credit limit, the Academic Standards Committee will select two faculty members, other than the faculty member who will supervise the project, within the area most closely related to the study's academic content to review and approve the study. Independent study exceeding three credits in total should consider current policies restricting use of independent study as well as the incremental value of additional independent study in light of past independent studies. If the study does not align with any of the JGSB academic groups, the Academic Standards Committee will perform the review and make the final approval decision.

Independent study projects are for academic credit, not for hire. Students may not earn credit for paid research assistance.

**Faculty Sponsorship**—Independent study projects normally are sponsored only by full-time JGSB faculty. Students wishing for sponsorship by a part-time faculty member must submit a project overview to the Academic Standards Committee and obtain the committee’s approval before the term(s) in which the project is to begin.

**Common Requirements**—The goal of independent study projects is to advance or deepen a student’s knowledge or competency in a business discipline or activity.

To facilitate these goals, independent study projects generally fall into two broad categories: (1) directed reading and study resulting in a research paper or (2) an experiential or hands-on project resulting in an outcome such as an empirical analysis or a Web page/site with an executive summary of the “deliverable.”

While the content of individual independent study projects are at the discretion of a student and the sponsoring faculty member, the JGSB would like to ensure relatively equal workloads per unit of independent study credit and some common requirements between independent study projects. To that end, students and/or sponsoring faculty should:
1. Prepare and submit to the MBA Program Office an overview of the independent study project with number of project credits, anticipated final results, and a broad timeline of anticipated project milestones.

2. Meet to discuss the project, after the initial agreement on the project scope, at least once every two to three weeks.

3. Prepare a final paper (in the case of directed reading and research projects) or complete a concrete deliverable (for example, a completed webpage, computer program, survey results, empirical analyses, etc.) together with an executive summary of the project (in the case of experiential projects).

4. File a copy of each student’s final paper, or executive summary, with the MBA Program Office.

**Applications**—Independent study applications are available for interested students to pick up in the MBA Program Office. Complete and approved applications are due to the MBA Program Office by the first week of the term in which the project will be completed. The student will be registered for MGMT 700 independent study for the appropriate credit amount, only when the MBA Program Office sends the approved application information to the Office of the Registrar for processing.

**Class Attendance Policy**
Students are expected to be in class on the first day of each term. The instructor reserves the right to exclude a student from their course who is absent on the first day. For special circumstances, students should see the instructor and/or the MBA Program Office immediately.

**Withdrawal Policy**
A JGSB student may voluntarily withdraw from school at any time. Rice University applies a sliding scale to tuition and fees, so early action to withdraw saves money.

**Jones School MBA Student Handbook**
Generally, the JGSB adheres to the academic regulations of Rice University. However, the JGSB’s MBA Program has unique policies and procedures that vary from the Office of Graduate and Postdoctoral Studies regarding, but not limited to, leave of absence, withdrawals and readmission, drop/add, academic discipline, dismissal, procedures for resolution of problems, and appeal of academic regulations. All JGSB students are responsible for adhering to policies and procedures listed in the *JGSB MBA Student Handbook* given to students during preterm. A copy of the handbook also may be obtained from the MBA Program Office.

**Financial Aid**
Financial assistance from JGSB is awarded only for a given semester or year. Continuation of assistance depends on satisfactory academic performance, professional behavior, and availability of funds. Academic or disciplinary probation, suspension, or more than three grades below B− result in the removal of all forms of school financial assistance, whether scholarship, loan, or employment. Scholarships are awarded for a combination of need and academic merit.

**PhD in Business**
The Jones Graduate School of Business’s PhD program is designed for candidates with outstanding intellectual abilities and a strong commitment to
research. The goal of the PhD program is to train students for academic careers focused on cutting-edge, rigorous research and teaching in a business school environment. Applicants to the PhD program must hold a four-year bachelor's degree from an accredited institution. A master's degree and work experience are not required for PhD admission.*

**Degree Requirements for PhD in Business**—For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4). For program details, see the *PhD Program Guide* distributed by the JGSB. Admissions applications should include scores on the Graduate Management Admissions Test (GMAT) or the Graduate Record Examination (GRE). Full financial support will be provided to admitted doctoral students. Candidates for the PhD degree spend at least two years in full-time course work and at least two years writing the dissertation. Four to five years is a reasonable goal for completing the program. For the PhD, students must

- Complete a program of doctoral-level courses that is approved by the area faculty advisor. Students take courses from departments such as economics, psychology, statistics, and political science in addition to courses from JGSB.
- Complete and defend orally a doctoral dissertation setting forth in publishable form the results of original research.

*While advanced degrees (e.g., masters) and prior work experience are taken into account in admission decisions, evidence of strong intellectual ability is of utmost importance.

See BUSI, MGMP, MGMT, and MGMW in the *Courses of Instruction* section.
The Center for the Study of Languages (CSL) was founded in 1997 to promote and enhance the study of languages at Rice University and is responsible for teaching 12 languages through the third year of instruction. The role of the center is to establish innovative approaches to language acquisition, expand opportunities for language learning across the curriculum, and increase Rice students’ participation in study and work abroad. The Language Resource Center (LRC), the technology division of the CSL, provides resources such as specialized computer software and enhanced videos to support and supplement all aspects of the teaching and learning of languages.

**Degrees Offered: None**

The CSL does not offer degree programs itself, but students are able to pursue language degrees from language departments. Some of those degrees include: BA in Asian Studies (Asian Studies); BA in Classical Studies (Classical Studies); BA, MA, and PhD in French Studies (French Studies); BA in German Studies (German Studies); and BA in Spanish (Hispanic Studies). See each department for degree requirements.

**Placement Testing**

Foreign language classes are popular among Rice University students who wish to enhance their knowledge of world languages and cultures. Students who have some background in the language they intend to study are required to take a placement test to ensure that they are placed in the appropriate course. Placement tests can be taken online prior to matriculation or during O-Week. Additional information regarding language placement tests can be found on the Language Resource Center Web page at www.ruf.rice.edu/~lrc/placement.html.
Transfer Credits

The CSL will determine equivalency for foreign language classes taken at other colleges or universities and approve them for transfer credit. University transfer credit guidelines (see Undergraduate Student section, pages 15–16) as well as requirements of the degree-granting department still apply. Students who study abroad should have their transfer credits approved before they commit to a study-abroad program. When requesting Rice equivalent credit for foreign language acquisition courses students must submit no less than the following to the CSL for approval: 1) the appropriate transfer request form from the Office of the Registrar, 2) a program description for courses taken abroad or catalog description for courses taken in the United States, and 3) a syllabus for the course they wish to take or have taken. Students should be aware that the approval process takes about one week and should plan accordingly.

Scholarships

Three scholarships are offered yearly through the CSL. The Donne Di Domani and the Ugo di Portanova donate money to be awarded to outstanding Rice University students. These scholarships are to be used for tuition and books and are awarded to students committed to study of the Italian language and are based on need and merit. The Ministry of Education, Republic of China in Taiwan also offers a scholarship to study Mandarin Chinese in Taiwan. Students interested in applying for either of these scholarships should contact the CSL at the beginning of the spring semester.

See ARAB, CHIN, FREN, GERM, HIND, HEBR, ITAL, JAPA, KORE, PORT, RUSS, and SPAN in the Courses of Instruction section.
CHEMICAL AND BIOMOLECULAR ENGINEERING

THE GEORGE R. BROWN SCHOOL OF ENGINEERING

Degrees Offered: BA, BSChE, MChE, MS, PhD

This major gives undergraduates a sound scientific and technical grounding for further development in a variety of professional environments. Courses in mathematics, chemistry, physics, and computational engineering provide the background for the chemical engineering core, which introduces students to chemical process fundamentals, fluid mechanics, heat and mass transfer, thermodynamics, kinetics, reactor design, process control, product and process design. Course electives may be used to create a focus area in one of the following four disciplines: biotechnology/bioengineering, environmental engineering, materials science/engineering, and computational engineering. Upon completing either the flexible BA requirements or the more scientific and professional BSChE requirements, students may apply for a fifth year of study leading to the nonthesis Master of Chemical Engineering (MChE) degree. A joint MBA/MChE degree also is available in conjunction with the Jesse H. Jones Graduate School of Management.

Students admitted for graduate studies leading to the MS or PhD degrees must complete a rigorous program combining advanced course work and original research that must be formalized in an approved thesis. Graduate research is possible in a number of areas, including catalysis and nanotechnology, thermodynamics and phase equilibria, interfacial phenomena, colloids, microemulsions, rheology and fluid mechanics, biosystems engineering, biocatalysis and metabolic engineering, cell population heterogeneity and biological pattern formation, cellular and tissue engineering, energy and sustainability, gas hydrates, enhanced oil recovery, reservoir characterization, and pollution control.
DEGREE REQUIREMENTS FOR BS IN CHEMICAL ENGINEERING

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). The BS degree is accredited by the Accreditation Board for Engineering and Technology (ABET). Through careful selection of other engineering and science courses, a student can develop a focus (or concentration) area in any of the following four engineering disciplines: biotechnology/bioengineering, environmental engineering, materials science/engineering, and computational engineering. These elective programs can be completed within the framework of a BS in chemical engineering. Students majoring in chemical engineering must complete 96–100 hours in the courses specified below for a minimum of 132 hours at graduation.

The undergraduate curriculum is designed so that outstanding students interested in careers in research and teaching may enter graduate school after earning either bachelor’s degree.

ENGINEERING BREADTH AND FOCUS AREA OPTIONS

To complete their technical education, Rice students seeking a BS degree in chemical engineering take course electives in at least two other engineering disciplines to satisfy a “breadth” requirement.

Alternatively, students can use their electives to create a focus (or concentration) area in one of the following four disciplines:

- biotechnology/bioengineering
- computational engineering
- environmental engineering
- materials science/engineering

Consult our department web page for a detailed list of courses that can be used to satisfy the engineering breadth or focus area requirements.

DEGREE REQUIREMENTS FOR BSCHE IN CHEMICAL ENGINEERING

Chemistry

CHEM 121/122 General Chemistry with Laboratory
CHEM 211 Organic Chemistry
CHEM 217 or 215 Organic Chemistry Lab
CHEM 311/312 Physical Chemistry
Any 2 of CHEM 212, CHEM 310, CHEM 330, or CHEM 360

Chemical and Biomolecular Engineering

CHBE 301 Chemical Engineering Fundamentals
CHBE 303 Computer Programming in Chemical Engineering
CHBE 305 Computational Methods for Chemical Engineers
CHBE 310 Introduction to Biomolecular Engineering
CHBE 343 Chemical Engineering Lab I
CHBE 390 Kinetics and Reactor Design
CHBE 401/402 Transport Phenomena I and II
CHBE 403 Design Fundamentals

Mathematics

MATH 101/102 Single Variable Calculus I and II
MATH 211 Ordinary Differential Equations and Linear Algebra
MATH 212 Multivariable Calculus or equivalent honors courses
CAAM 336 Differential Equations in Science and Engineering or
MATH 381 Introduction to Partial Differential Equations

Physics

PHYS 101 or 111 Mechanics
PHYS 102 or 112 Electricity and Magnetism

Mechanical Engineering

MECH 211 Engineering Mechanics
Students pursuing the BA degree in chemical engineering must meet all of the requirements for the BSChE degree with the following exceptions: CHBE 404, CHBE 443, CHBE 470, and MECH 211 are not required. Also, they do not have to satisfy the requirements for either the engineering breadth or the focus area. Free electives may be substituted for these requirements to reach at least 132 semester hours for graduation.

Prerequisites for Chemical Engineering Courses—Before undergraduates may register for courses in chemical engineering at the 300-level and above, they must satisfy the following prerequisites.

For CHBE 301
MATH 101/102
CHEM 121/122
Corequisite: CHBE 303

For CHBE 303
Corequisite: CHBE 301

For CHBE 305
CHBE 301 and 303

For CHBE 310
CHBE 301, 390, and 411

For CHBE 343
CHBE 390, 401, and 412

For CHBE 390
CHBE 301 and 303
MATH 211/212
Co/prerequisite: CHBE 305

For CHBE 401
CHBE 411
MATH 211/212

PHYS 101/102
Co/Prerequisite: CHBE 305

For CHBE 402
CHBE 401

For CHBE 403
CHBE 390, 402, and 412
Co/Prerequisites: CHBE 470

For CHBE 404
CHBE 403

For CHBE 411
CHBE 301 and 303

For CHBE 412
CHBE 411

For CHBE 443
CHBE 343

For CHBE 470
CHBE 390, 402, and 412

Degree Requirements for MChE, MS, and PhD in Chemical Engineering

For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4).

MChE Program—For the MChE degree, students must complete at least 30 hours of courses beyond those counted for their undergraduate degree. At least six of the courses taken must be upper-level courses in chemical engineering and one must be an approved mathematics course. The chemical engineering courses selected should include process design (two semesters) and process control, unless courses in these subjects were taken during the student’s undergraduate studies.

MS Program—Candidates for the MS degree must:
• Complete at least 18 approved semester hours with high standing
• Submit an original research thesis
• Defend the thesis in a public oral examination

PhD Program—Candidates for the PhD degree must:
• Satisfactorily complete 36 semester hours of advanced course work, including both general and specialized topics (students who already have an MS degree in chemical engineering can request departmental approval for a reduction in the number of required courses)
• Pass qualifying examinations demonstrating a general understanding of reaction engineering, thermodynamics, transport phenomena, and applied mathematics
• Prepare and present a thesis proposal
• Complete a publishable thesis representing research that is an original and significant contribution to the field of chemical and biomolecular engineering
• Pass a public oral examination in defense of the thesis
• Fulfill a residency requirement
• Complete a teaching assignment

See CHBE in the Courses of Instruction section.
The Wiess School of Natural Sciences

Degrees Offered: BA, BS, MA, PhD

The Department of Chemistry offers undergraduate chemistry majors leading to both the bachelor of science degree and the bachelor of arts degree. The BS program rigorously prepares students for advanced work in chemistry or a related discipline, and the degree requirements are consistent with the guidelines for certification by the American Chemical Society. This curriculum provides a broad and comprehensive introduction to core areas of chemistry while promoting depth of understanding in one or more specific fields. BS students complete a series of foundation courses in general chemistry, analytical chemistry, biological chemistry, inorganic chemistry, organic chemistry, and physical chemistry. Students then complete one or more specializations, or “tracks”, consisting of in-depth courses both in and out of the specialization. The BA degree is a more flexible program that provides a comprehensive overview of all
areas of chemistry, including laboratory experiences, but can be coupled more easily with other majors or professional career paths. Both degree programs offer students a solid background in the fundamental principles of chemistry, the properties and reactions of chemical compounds, and their uses.

Graduate studies emphasize individual research together with a fundamental understanding of chemistry beyond the students’ specific interests. Faculty research interests include the synthesis and biosynthesis of organic natural products; supramolecular chemistry, molecular recognition, and biological catalysis; bioinorganic and organometallic chemistry; main group element and transition metal chemistry; the chemistry of the main group elements; the design of nanophase solids; molecular photochemistry and photophysics; infrared kinetic spectroscopy, laser, and NMR spectroscopy; studies of electron transfer in crossed beams; theoretical and computational chemistry; the study of fullerene molecules, carbon nanotubes, and their derivatives; polymer synthesis and characterization; molecular electronics; molecular machines; and chemical-based nanotechnology.

Degree Requirements for the BS in Chemistry

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). The BS in chemistry requires at least 124 credit hours, including 64 credit hours of chemistry requirements (below) and at least 60 additional credit hours that satisfy the distribution requirements (Undergraduate Students section, pages 3–4). The following courses are required for all students pursuing the bachelor of science degree in chemistry:

**General Chemistry**
- CHEM 121 General Chemistry I
- CHEM 122 General Chemistry II
- CHEM 123 General Chemistry Laboratory I
- CHEM 124 General Chemistry Laboratory II

**Chemistry Foundation Courses**
- CHEM 211 Organic Chemistry I or CHEM 251 Honors Organic Chemistry I
- CHEM 310 Physical Chemistry
- CHEM 330 Analytical Chemistry
- CHEM 360 Inorganic Chemistry
- BIOS 301 Biochemistry I

**Introductory Laboratory Modules**
- CHEM 351 Introductory Module in Inorganic Chemistry
- CHEM 352 Introductory Module in Organic Chemistry
- CHEM 353 Introductory Module in Analytical Methods

**Mathematics**
- MATH 101 Single Variable Calculus I
- MATH 102 Single Variable Calculus II
- MATH 211 Ordinary Differential Equations and Linear Algebra
- MATH 212 Multivariable Calculus

(MATH 221 & 222 Honors Calculus III and IV may substitute for MATH 211 and 212)

**Physics**
- PHYS 101 or 111 Mechanics (with lab) or PHYS 125 General Physics (with lab)
- PHYS 102 or 112 Electricity and Magnetism (with lab) or PHYS 126 General Physics II (with lab)

* The Department of Mathematics may, after consultation with a student concerning his/her previous math preparation, recommend that a student be placed into a higher level math course than for which the student has official credit. The Department of Chemistry will accept this waiver of the math classes upon a written confirmation of the waiver from the Department of Mathematics and upon the student's successful completion of the higher level math course.
In-depth Chemistry Courses
In addition to the above required courses for the bachelor of science in chemistry, each student must complete the requirements for one of the following specializations or tracks. Other departments offer advanced courses with substantial chemistry content, and these may count toward this requirement with approval of a track advisor. A student may, by working with his or her chemistry major advisor and with the approval of the chemistry department, propose a track in another specialization. Such proposed tracks must have course and laboratory experiences comparable to those of the tracks listed below. A double specialization can be earned by completing the requirements for two specialties. For double specialization, only two advanced lecture courses may count towards both specializations. The remaining two advanced courses in each specialization must be unique (i.e., double specialization requires six advanced lecture courses, and triple specialization require eight). A nanochemistry specialization can be added to any of the standard tracks by adding two nanoscience courses.

Specialization in Biological and Medicinal Chemistry
(Track Advisors: Matsuda and Landes)
- CHEM 212 Organic Chemistry II or CHEM 252 Honors Organic Chemistry II
- BIOS 302 Biochemistry II
- CHEM 491 Research for Undergraduates (3 credit hours)
- Four advanced lab modules. Students interested in biological and medicinal chemistry are encouraged to consider CHEM 374 Advanced Module in Organic Synthesis, CHEM 378 Advanced Module in Plant Natural Products Biochemistry, and BIOS 311 Advanced Experimental Biosciences.

Specialization in Inorganic Chemistry and Inorganic Materials
(Track Advisors: Whitmire, Wilson, and Marti)
- CHEM 475 Physical Methods in Inorganic Chemistry
- CHEM 495 Transition Metal Chemistry
- Two additional three-credit advanced chemistry courses
- CHEM 491 Research for Undergraduates (3 credit hours)
- Four advanced lab modules

Specialization in Organic Chemistry
(Track Advisors: Engel and Ball)
- CHEM 212 Organic Chemistry II or CHEM 252 Honors Organic Chemistry II
- CHEM 401 Advanced Organic Chemistry

• CHEM 491 *Research for Undergraduates* (3 credit hours)

• Four advanced lab modules. Students interested in organic chemistry are encouraged to consider CHEM 372 *Advanced Module in the Synthesis and Characterization of Fullerene Compounds* and CHEM 374 *Advanced Module in Organic Synthesis*.

**Specialization in Physical and Theoretical Chemistry**
(Track Advisors: Hutchinson and Link)

• CHEM 430 *Quantum Chemistry*

• CHEM 420 *Classical and Statistical Thermodynamics*

• One additional three-credit advanced course in physical chemistry (CHEM 415 *Chemical Kinetics and Dynamics*, CHEM 531 *Advanced Quantum Chemistry*, or CHEM 537 *Biophysical Chemistry*)

• One additional three-credit advanced course in chemistry outside of physical chemistry

• CHEM 491 *Research for Undergraduates* (3 credit hours)

• Four advanced lab modules. Students interested in physical chemistry are encouraged to consider CHEM 381 *Advanced Module in Equilibrium Physical Chemistry* and CHEM 383 *Advanced Module in Quantum Chemistry*

All specializations mandate three credit hours of CHEM 491. A student with substantial research experience (e.g., a summer internship in another university) outside of the formal CHEM 491 course may substitute one additional 3-credit-hour advanced course within the specialization for CHEM 491. This substitution requires approval of the Chemistry Department based on the quality of the research experience, which the student should document with a comprehensive written report. It is advisable to seek feedback on the probable suitability of a summer internship before undertaking that work. An advanced laboratory module can be replaced by either 1) a second three-hour term in CHEM 491; 2) two credits of CHEM 215; 3) two credits of CHEM 700 (*Teaching Practicum*, which can be taken by undergrads who gain the instructor’s permission); or four laboratory courses that have substantial chemistry content from disciplines related to chemistry (biochemistry, physics, materials science, environmental engineering, etc.; these must be approved by the track advisor). No more than two advanced modules can be replaced through these substitutions. These substitutions cannot be made for introductory modules. Students interested in health professions need two credit hours of organic laboratory, and should take either CHEM 215, or both CHEM 352 and CHEM 374.

**Degree Requirements for the BA in Chemistry**
For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–3). The BA in chemistry
requires at least 120 credit hours, including 45 credit hours of chemistry requirements (below) and at least 78 additional credit hours that satisfy the distribution requirements (Undergraduate Students section, pages 3–4). Prof. Hutchinson is the BA advisor.

**General Chemistry and Foundation Courses**

CHEM 121 *General Chemistry I*
CHEM 122 *General Chemistry II*
CHEM 123 *General Chemistry Laboratory I*
CHEM 124 *General Chemistry Laboratory II*
CHEM 211 *Organic Chemistry I* or CHEM 251 *Honors Organic Chemistry I*
CHEM 310 *Physical Chemistry* or BIOS 352 *Physical Chemistry for the Biosciences*
CHEM 330 *Analytical Chemistry*
CHEM 360 *Inorganic Chemistry*
BIOS 301 *Biochemistry I*

Two Additional Upper-level 3-credit Chemistry Lecture Courses (these can include CHEM 212 or CHEM 252). Other departments offer advanced courses with substantial chemistry content, and these may count toward this requirement with approval of the BA advisor.

**Introductory Laboratory Modules**

CHEM 351 *Introductory Module in Inorganic Chemistry*
CHEM 352 *Introductory Module in Organic Chemistry*
One additional chemistry laboratory course (CHEM 215 or any chemistry lab module)

**Mathematics***

MATH 101 *Single Variable Calculus I*
MATH 102 *Single Variable Calculus II*

**Physics**

PHYS 101 or 111 *Mechanics* or PHYS 125 *General Physics*
PHYS 102 or 112 *Electricity and Magnetism* or PHYS 126 *General Physics II*

**Degree Requirements for the BS in Chemical Physics**

The chemical physics major leading to a BS degree is offered in conjunction with the Department of Physics and Astronomy. Students take upper-level courses in both chemistry and physics, focusing on the applications of physics to chemical systems. Students majoring in chemical physics must complete the following courses:

**Core Courses Required of All Chemical Physics Majors**

<table>
<thead>
<tr>
<th>Chemistry</th>
<th>Physics</th>
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<tbody>
<tr>
<td>CHEM 121 <em>General Chemistry I</em></td>
<td>PHYS 101 or 111 <em>Mechanics</em></td>
</tr>
<tr>
<td>CHEM 122 <em>General Chemistry II</em></td>
<td>PHYS 102 or 112 <em>Electricity and Magnetism</em></td>
</tr>
<tr>
<td>CHEM 123 <em>General Chemistry Laboratory I</em></td>
<td>PHYS 201 <em>Waves and Optics</em></td>
</tr>
<tr>
<td>CHEM 124 <em>General Chemistry Laboratory II</em></td>
<td>PHYS 202 <em>Modern Physics</em></td>
</tr>
<tr>
<td>CHEM 211 <em>Organic Chemistry I</em> or CHEM 251 <em>Honors Organic Chemistry I</em></td>
<td>PHYS 231 <em>Elementary Physics Lab</em></td>
</tr>
<tr>
<td>CHEM 310 <em>Physical Chemistry</em></td>
<td>PHYS 301 <em>Intermediate Mechanics</em></td>
</tr>
<tr>
<td>CHEM 360 <em>Inorganic Chemistry</em></td>
<td>PHYS 302 <em>Intermediate Electrodynamics</em></td>
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</tbody>
</table>
Mathematics
MATH 101/102 Single Variable Calculus I and II
MATH 211 Ordinary Differential Equations and Linear Algebra
MATH 212 Multivariable Calculus (MATH 221/222 Honors Calculus III and IV may substitute for MATH 211/212)

Additional Courses
One course from PHYS 425 or CHEM 420
Two courses from PHYS 311, PHYS 312, or CHEM 430

Six hours from CHEM 215, CHEM 351, CHEM 352, CHEM 353, CHEM 372–395, PHYS 331, or PHYS 332. Up to two hours of independent research (CHEM 491 or PHYS 491/492 may be counted toward this requirement.)
Six credit hours of mathematics or computational and applied mathematics at the 300 level or above

Degree Requirements for MA and PhD in Chemistry
For general university requirements, see Graduate Degrees (Graduate Students section, page 3–4). Students who have completed course work equivalent to that required for a BA or BS in chemistry may apply for admission to the PhD program. For more information, see Admission to Graduate Study (Graduate Students section, page 2–3). Students are not normally admitted to study for an MA degree.

Requirements for the PhD in Chemistry
Research—The PhD in chemistry is awarded for original research in chemistry. During the first semester of residence, students select a research advisor from among the members of the faculty; the department chair must approve this choice. In some cases, students may choose research advisors outside of the department; however, such arrangements must be approved by the chemistry faculty. The research advisor will guide the student in the choice of an appropriate research topic and in the detailed training required to complete that project. Students must successfully complete CHEM 800 Graduate Research and CHEM 600 Graduate Seminar every semester of residence. Candidates earn a PhD after successfully completing at least 90 semester hours of advanced study in chemistry and related fields, culminating in a thesis that describes an original and significant investigation in chemistry. The thesis must be satisfactorily defended in a public oral examination. The student must pass the thesis defense before the end of the 16th semester of residency.

Coursework—Within the first two years, the student must complete six 3-semester-hour graduate-level lecture courses at Rice University. In order to satisfy this requirement, each of these courses must satisfy the following criteria:

• They must be approved by the department’s graduate advising committee.
• Chemistry courses must be at the 400 level or higher. Certain 300-level courses in other departments may be acceptable with prior approval by the department’s graduate advising committee. Courses must be in technical subjects in science or engineering. Courses in teaching, presentation, or management will not be counted toward the six-class requirement.
• Each course must be passed with a grade of B- or higher. It is possible to repeat or replace a course, upon approval of the department's graduate advising committee. A maximum of two courses can be repeated/replaced.

• Students who pursue both the BS and the PhD at Rice need not duplicate course work for the two degrees. However, teaching as an undergraduate does not substitute for the teaching requirements in the PhD program.

**Teaching**—Each graduate student must participate in teaching (CHEM 700) for the equivalent of three semesters. Assignments are determined by departmental needs. Students also may be requested to fulfill certain service functions for the department.

**Qualifying Examination**—The qualifying exam has written and oral components, and the expectations for these are available in the department office. The examination committee will be composed of three faculty members, excluding the research advisor. The written document must be submitted to the committee at least one week before the date of the oral examination. The examination must be taken by the last day of class at the end of the student's fourth semester in residency. Any follow-up work required by the committee must be completed by the assigned date, and the exam must be passed by the end of the sixth semester.

**Advancement to Candidacy for the PhD**—After completing the required coursework, teaching, and qualifying examination, a student must petition to be advanced to candidacy for the PhD degree. Upon advancement to candidacy, a student chooses a thesis committee of at least three faculty members with the guidance and approval of the research advisor and department chair. The thesis committee must include one faculty member whose primary appointment is outside of the chemistry department.

**Satisfactory Performance**

To remain in good standing, a student must maintain a GPA of 3.00 (B) or higher in all lecture courses, including grades above B- in CHEM 600, CHEM 700, and CHEM 800. Failure to maintain satisfactory grades and sufficient progress in research will result in probation and possible dismissal. The student must be enrolled full time in a departmentally approved research group beginning the second semester, and every semester thereafter. Students must make satisfactory research progress as judged by their research director and thesis committee. The student, advisor, or committee may request a meeting between student and committee at any time to evaluate progress or to determine a course of action. The thesis committee will assess the progress being made in research and may invite the student to present a discussion of his or her work. If progress is unsatisfactory, the committee may recommend a semester of probation, which could result in dismissal from the program if progress remains unsatisfactory in the subsequent semester.

**Requirements for the MA in Chemistry**

**MA Program**—Although students are not normally admitted to study for an MA, this degree is sometimes awarded to students who do not complete the PhD program. Candidates for the MA degree must:
• Complete six one-semester courses
• Produce a thesis that presents the results of a program of research approved by the department
• Pass a final thesis defense

Students who are admitted to PhD candidacy may apply for an automatic master's degree.

APPEAL

Students may petition the Chemistry Department Graduate Advising Committee for variances on these academic regulations.

See CHEM in the Courses of Instruction section.
Civil and Environmental Engineering

The George R. Brown School of Engineering

Chair
Pedro J. J. Alvarez

Professors
Philip B. Bedient
Satish Nagarajah
Pol D. Spanos
Mason B. Tomson
Calvin H. Ward

Associate Professor
Robert Griffin

Professors Emeriti
Ahmad J. Durrani
John E. Merwin
Ronald P. Nordgren
James R. Sims
Anestis S. Veletsos
Mark R. Wiesner

Assistant Professors
Daniel S. Cohan
Leonardo Dueñas-Osorio
Qilin Li
Jamie Padgett
Ilincu Stanciulescu

Adjunct Professors
Jean-Yves Bottero
Wei Chen
Joseph Hughes
Pat H. Moore
Charles J. Newell
Carroll Oubre
Jerome Rose
Baxter Vieux

Adjunct Assistant Professor
Karen Duston

Professors of the Practice in Civil Engineering Management
Joseph Gibor
Ed Segner, III

Professor in the Practice of Environmental Law
James B. Blackburn

Lecturers
Phillip deBlanc
Moyeen Haque
John M. Sedlak
Nadathur Varadarajan
Steve Wilkerson

Degrees Offered: BS, BA, MCEE, MS, PhD

Civil and environmental engineering (CEE) is a broad and diverse field of study that offers students an education with several degree options. The most flexible degree options are at the bachelor's level, where students can major in civil engineering (BS or BA) or environmental engineering sciences (BA) or complete a double major with any other Rice University major. One nonthesis graduate degree (MCEE) is available to students who desire additional education and specialization in civil engineering, environmental engineering, or environmental sciences. Joint MBA/Master of Engineering degrees also are available in conjunction with the Jesse H. Jones Graduate School of Management.

Students admitted for graduate study leading to MS or PhD degrees must complete a rigorous course of study that combines advanced course work with scholarly research culminating in the public defense of a written thesis. Graduate research is carried out in a range of areas reflecting the interests of the department's faculty. Examples include environmental engineering, geotechnical engineering, structural engineering and mechanics, hydrology, water resources and water quality management, air pollution and its control, and hazardous waste treatment.

BS Degree in Civil Engineering

CEE offers an innovative and challenging BS engineering curriculum that is designed to provide significant flexibility to the student. Specific details and typical course layouts by semester can be found at the departmental Web site: ceve.rice.edu.

The main features of the ABET accredited BS in civil engineering are as follows:

• Seven core courses (23 hours) primarily aimed at introduction to civil and environmental engineering, followed by 10 courses (30 hours) that represent the
four thrust areas within CEE, with at least four courses from one thrust area.

- The total required CEE courses are kept to a minimum level of 53 hours to provide flexibility to the student.
- Select 12 credit hours for your focus area. Select 6 credit hours from each of the three remaining areas.
- The thrust areas include:
  1. environmental engineering (air and water quality, transport theory, modeling, and energy)
  2. hydrology and water resources (watershed and aquifer management, flood prediction, data analysis, GIS)
  3. structural engineering and mechanics (structural analysis, mechanics, design, matrix methods)
  4. urban infrastructure and management (transportation systems, complex urban systems, soil mechanics, engineering economics, management)
- A choice of free electives (16 hours) to allow maximum flexibility for students to choose from an approved list of courses
- General science (39 hours) courses cover mathematics, physics, and chemistry
- Distribution (24 hours) courses as per university requirements. A total of at least 132 hours are required for graduation with a BS (see detailed list below).

Additional features of the BS curriculum include:
- Freshman/sophomore year courses that introduce fundamentals of CEE primarily targeted at students with diverse science, engineering, and humanities backgrounds (CEVE 101, 201, 203, 211, and 311, 312)
- Special-topics course available in the final year to help attract the best students to perform undergraduate research in the department.
- Engineers Without Borders (EWB) is an important component of the program. This exciting new endeavor allows undergraduates to have an experience in a developing country where they are able to actually design and build a project to help society. Students have been attracted to the program in large numbers. (See ceve.rice.edu)

### Course Requirements

#### General Science Requirements (* or an equivalent approved course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAAM 210</td>
<td>Introduction to Engineering Comp</td>
<td>3</td>
</tr>
<tr>
<td>CAAM 335*</td>
<td>Matrix Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 121</td>
<td>General Chemistry with Lab</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 122</td>
<td>General Chemistry with Lab</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 211</td>
<td>General Chemistry with Lab</td>
<td>4</td>
</tr>
<tr>
<td>MATH 101</td>
<td>Single Variable Calculus I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 102</td>
<td>Single Variable Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 211</td>
<td>Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MATH 212</td>
<td>Multivariable Calculus</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 101</td>
<td>Mechanics with Lab</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 102</td>
<td>Electricity and Magnetism with Lab</td>
<td>4</td>
</tr>
<tr>
<td>STAT 312</td>
<td>Probability and Statistics</td>
<td>3</td>
</tr>
</tbody>
</table>

#### CEE Core Requirements (23 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEVE 101</td>
<td>Fundamentals of CEE</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 203</td>
<td>Environmental Eng. Processes</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 211</td>
<td>Engineering Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 311</td>
<td>Mechanics of Solids and Structures</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 312</td>
<td>Strength of Materials Lab</td>
<td>1</td>
</tr>
<tr>
<td>CEVE 371</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 402</td>
<td>Environmental Engineering Lab</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 480</td>
<td>Senior Design Project</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 481</td>
<td>Introduction to Senior Design</td>
<td>1</td>
</tr>
</tbody>
</table>
ABET Program Objectives
(See Web site at ceve.rice.edu/ for additional information.)

1. Develop/demonstrate strong problem-solving and communication skills
2. Achieve leadership position in technical or managerial area
3. Demonstrate initiative and innovative thinking in project work
4. Maintain a keen awareness of ethical, social, environmental, and global concerns
5. Remain engaged in continuing learning, including advanced degrees
6. Prepare for a Professional Engineering License

BA degree in Environmental Engineering Sciences

The BA degree in Environmental Engineering Sciences is designed to provide access to topics of common interest to students across the disciplines at Rice University. It is tailored to the specific needs of each student by discussion with and approval by the CEE departmental advisor(s). An advisor will be assigned by the CEE department chair, normally during the first year of study.

Five core courses and one lab, plus seven courses in a focused specialty area (example study areas listed below) of study, are required; total CEE requirements approximately 39 hours. In addition, each student is responsible for satisfying the university distribution requirements (24 hours) and additional electives.
for a total of at least 120 hours for graduation with a BA in environmental engineering sciences.

**Students are encouraged, although not required, to double major in their focus specialty area.**

The coherent and complete core curriculum is designed to give Rice undergraduate students a consistent technological literacy through the lens of civil and environmental engineering and to prepare students for graduate school in engineering, various sciences (depending on focus), economics, business MBA, political science, law, or medicine. Select students will be invited to finish an **accelerated MS/PhD degree** in the CEE department at Rice (meet with your advisor or department chair for details). Those students who want to obtain an ABET accredited engineering degree must follow a BS degree program in one of the engineering disciplines, including CEE.

A student must demonstrate proficiency in the basic concepts of mathematics, computation, chemistry, and physics. Generally, this will require that these subjects were studied previously, e.g., AP exams or concurrent enrollment with CEVE 101 or 201.

**Core courses required for all BA Environmental Engineering Science majors:**

- CEVE 101 Fundamentals of CEE (3)
- CEVE 201 (or 30X) Urban and Environmental Systems (4)*
- CEVE 203 Environmental Engineering Processes (3)*
- CEVE 401 Intro to Environmental Chemistry (3)*
- CEVE 402 Laboratory to accompany CEVE 203 and 401 (3)
- CEVE 412 Hydrology and Watershed Analysis (3)

* Courses with laboratories

**Typical “focus specialty areas” might include (subject to advisor approval of the specific focus and courses), but are not limited to, the following:**


**BA degree in Civil Engineering**

The BA degree in civil engineering is designed to provide access to topics of common interest to students across the disciplines at Rice University. It is tailored to the specific needs of each student by discussion with and approval by the CEE departmental advisor. And advisor will be assigned by the CEE department chair, normally during the first year of study. For the BA degree in civil engineering, students must have a total of at least 120 hours. A student must demonstrate proficiency in the basic concepts of mathematics, computation, chemistry, and physics. Generally, this will require that these subjects were studied previously, e.g., AP exams. The BA degree in civil engineering requires 21 hours of general math and science courses, 25 hours of core civil engineering courses, and 74 hours of electives (distribution courses 24 hours) and remaining open or free electives 50 hours). Students are encouraged, although not required, to double major in their focus specialty area.

The coherent and complete core curriculum is designed to give Rice undergraduate students a consistent technological literacy through the lens of civil and environmental engineering and to prepare students for graduate school in engineering. Those students who want to obtain an ABET accredited engineering degree must follow a BS degree in the civil engineering program.

The CE subtrack, requires 21 hours of general math and science courses, 25 hours of core civil engineering courses, and 74 hours of electives (distribution courses 24 hours, and remaining open or free electives 50 hours):
Engineers Without Borders (EWB) (CEVE 315) is an important component of the CEE program. This exciting new endeavor allows undergraduates to have an experience in a developing country, where they are able to actually design and build a project to help society. Students have been attracted to the program in large numbers.

**Degree Requirements for MCEE, MS, and PhD**

**Admission**—Applicants pursuing graduate education in environmental engineering or hydrology should have preparation in mathematics, science, and engineering or related courses. A BS degree or degree in natural science is preferred. Applicants pursuing graduate education in structural engineering, structural mechanics, and geotechnical engineering should have a BSCE with a significant emphasis on structural engineering, but students with other undergraduate degrees may apply if they have adequate preparation in mathematics, mechanics, and structural analysis and design. Applicants for graduate degrees should have a BS or BA in related areas of science and engineering. Successful applicants typically have at least a 3.00 (B) grade point average in undergraduate work and high Graduate Record Examination (GRE) scores. For general university requirements, see Admission to Graduate Study and Graduate Degrees (Graduate Student section, pages 3–4).

**MS Program**—The Master of Science degree is offered in both civil engineering and environmental engineering. For general university requirements, see Graduate Degrees (Graduate Student section, pages 3–4). To earn a MS degree, students must:

- Complete at least 24 semester hours of approved courses. For students studying environmental engineering, this must include one course each in environmental chemistry, water treatment, hydrology, and air quality. For students studying civil, structural engineering, and mechanics, this must include one course each in structural engineering, mechanics, advanced mathematics, and dynamic systems (comparable course work completed previously may be substituted for the core courses).
• Select a thesis committee according to department requirements and conduct original research in consultation with the committee.
• Present and defend in oral examination an approved research thesis.

Students take the oral exam only after the committee determines the thesis to be in a written format acceptable for public defense. Normally, students take two academic years and the intervening summer to complete the degree.

Students intending to extend their studies into the PhD degree program should note that the department does not grant an automatic MS degree to candidates who have not written a satisfactory master's thesis.

MBA/MCEE Program—For general university requirements, see Graduate Degrees (Graduate Student section, pages 3–4). See also Management and Accounting (in Departments & Programs section). To earn a MBA/MCEE degree, students must:
• Complete 24 semester hours of civil engineering courses.
• Complete 52 semester hours of business administration courses.

MCEE Program—The Master of Civil and Environmental Engineering (MCEE) is a professional nonthesis degree requiring 30 hours of study. Students who have a BS or BA degree in any field of engineering or related study may apply (see Graduate Degrees in Graduate Students section, pages 3–4) and complete 30 hours of graduate level courses or courses co-listed by the CEE department. Other graduate courses from other departments might count towards the MCEE degree, but need prior approval by a CEE faculty advisor. Depending on their background, some students may need to fulfill prerequisites or take remedial engineering courses to earn the MCEE degree. Refer to our Web site, www.ceve.rice.edu.

PhD Program—To earn a PhD degree, candidates must successfully accomplish the following (spending at least four semesters in full-time study at Rice). (See candidacy, oral examinations, and the thesis in Graduate Students section, pages 13–15).
• Complete 90 semester hours of approved credits past BS (60 semester hours past MS) with high standing (See guidelines on our Web site, www.ceve.rice.edu.)
• Pass a preliminary written examination in civil and environmental engineering (See guidelines on our Web site, www.ceve.rice.edu.)
• Pass a qualifying examination on course work, proposed research, and related topics
• Complete a dissertation indicating an ability to do original and scholarly research
• Pass a formal public oral examination on the thesis and related topics. PhD candidates in civil and environmental engineering take the preliminary exam, administered by department faculty, after two semesters of course work. Candidates who pass this exam then form a doctoral committee according to department requirements. The qualifying examination administered by the doctoral committee after candidates develop a research proposal evaluates their preparation for the proposed research and identifies any areas requiring additional course work or study. As part of the advanced degree training, we also may require students to assist the faculty in undergraduate courses and laboratory instructions.
CLASSICAL STUDIES

THE SCHOOL OF HUMANITIES

CHAIR
Scott McGill

ASSISTANT PROFESSOR
Caroline Quenemoen

PROFESSORS
Michael Maas
Donald Ray Morrison
Harvey Yunis

LECTURER
Edward Anderson

ASSOCIATE PROFESSORS
Hilary Mackie
Scott McGill

POSTDOCTORAL FELLOW
Ted Somerville

DEGREE OFFERED: BA

The Department of Classical Studies offers instruction in the Greek and Latin languages, in Greek and Roman literature (studied in the original and in translation), in the classical civilizations surveyed as a whole, and in particular themes, genres, and periods of classical culture and its influence through subsequent ages.

We recognize that students come to the study of ancient Greece and Rome with a whole spectrum of different kinds of interest. Some will want to concentrate on learning the ancient languages and reading the classical texts in the original Greek or Latin. Others will desire a broader introduction to the cultures of Greece and Rome and their legacy. With this in mind, the classical studies department provides maximum flexibility without sacrifice of focus. We cater to students who wish to prepare for graduate school in classics and also to students who are interested in Greek and Roman culture for other reasons and wish to take a less specialized approach. Students will be able to explore ancient Greece and Rome from a variety of different angles and with whatever emphasis best suits their individual needs and goals.

The classical studies department offers two tracks to satisfy the requirements for a BA (specific information below): the classical languages track emphasizes the ancient languages and reading classical texts in the original; the classical civilizations track allows for a broader set of approaches and does not include a language requirement.

Classical studies majors, in either track, will, if they wish, have the opportunity to engage in research. In the final semester of study, a student may enroll in CLAS 493, in which the student writes a senior thesis on a topic of the student's choice in consultation with a faculty member.

The classical studies department also offers a program in the Classical Legacy. Using courses in translation, this program makes classical antiquity accessible to a wide range of students and offers those students basic knowledge of major trends in Western intellectual and cultural history. Courses offer grounding in classical literature, art, thought, and history and relate classical culture to later attempts in post classical and contemporary cultures to assimilate, emulate, and recreate classical models. A highlight of the Classical Legacy program is CLAS 321, a two-week study-trip to Rome at the end of the spring semester, organized and run by Rice professors for Rice students. For current information
on the Classical Legacy program and the study-trip to Rome, consult the Web site: classicallegacy.rice.edu/.

Further information on the department, its courses, its faculty members, and its events is available on the Web: classics.rice.edu/.

Policy on Advanced Placement credit: For the exam on “Latin Literature,” new matriculants who score 4 receive three hours credit for LATI 104 and new matriculants who score 5 receive three hours credit for LATI 204 and D1 distribution credit. For the exam on “Latin: Virgil,” new matriculants who score 4 receive three hours credit for LATI 104 and new matriculants who score 5 receive three hours credit for LATI 202 and D1 distribution credit.

**Degree Requirements for BA in Classical Studies**

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5).

Students majoring in classical studies may complete either of two tracks.

For the Classical Languages track, students must complete 30 semester hours (10 courses) listed under Greek, Latin, or Classics, including at least two of the following three courses:

- **CLAS 107 Greek Civilization and Its Legacy**
- **CLAS 108 Roman Civilization and Its Legacy**
- **CLAS 235 Classical Mythology: Interpretation, Origins, and Influence** and at least:
  a) one course in Greek at the 200 level or higher
  b) one course in Latin at the 200 level or higher
  c) two courses in Greek or Latin at the 300 level or higher

Any course that satisfies c) also satisfies a) or b).

For the Classical Civilizations track, students must complete 30 semester hours (10 courses) listed under Greek, Latin, or Classics, including at least two of the following three courses:

- **CLAS 107 Greek Civilization and Its Legacy**
- **CLAS 108 Roman Civilization and Its Legacy**
- **CLAS 235 Classical Mythology: Interpretation, Origins, and Influence**

Some courses in ancient philosophy, history, art history, and religion offered by the departments of Philosophy, History, Art History, and Religious Studies also satisfy requirements for either track of the classical studies major. For advice about which courses do this, consult the undergraduate advisor.

See **CLAS, GREE, and LATI** in the Courses of Instruction section.
Cognitive Sciences

The School of Social Sciences

Degree Offered: BA

Researchers in this interdisciplinary field seek to understand such mental phenomena as perception, thought, memory, the acquisition and use of language, learning, concept formation, and consciousness. Some investigators focus on relations between brain structures and behavior, some work with computer simulation, some use experimental methodology, and others work at more abstract theoretical levels.

Degree Requirements for BA in Cognitive Sciences

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). Students majoring in cognitive sciences must complete five core courses and seven additional courses (see below). Among the seven additional courses, at least three and no more than four must be in a single area of concentration—linguistics, philosophy, psychology, or neuroscience.

Introductory Courses

Because the major is interdisciplinary, no single course introduces the full range of the subject. However, students who are interested in majoring in cognitive sciences should take one or more of the following courses during their first and second years: LING 200, PHIL 103, PSYC 101, or PSYC 203.

Honors Program

Students with a 3.5 GPA in cognitive sciences and 3.3 overall GPA may apply for the cognitive sciences honors program. Students in the honors program
are expected to conduct an independent research project of either one or two semesters under the guidance of a member of the cognitive sciences faculty. Students who wish to enter this program should consult with prospective advisors during their junior year and submit a proposal by the end of the semester preceding the initiation of the project. Typically, this means submitting a proposal by the end of the junior year and beginning the project during the fall of the senior year. Proposal will be reviewed by both the supervisor and the program director. Students who undertake a two-semester project will be allowed to continue into the second semester only if their advisor judges that sufficient progress has been made during the 1st semester. At the end of a project, honors students are expected to submit a final paper to both their advisor and the program director and make an oral presentation to faculty and students. For more details, contact the program director.

**Independent Research**

Majors may undertake supervised independent research by enrolling in CSCI 390 or the honors program. Students who wish to take CSCI 390 must complete a CSCI 390 contract and have it approved by their supervisor and the program director prior to the end of the first week of classes. All students taking CSCI 390 also must write a substantive research paper, which is to be submitted to both their advisor and the program director at the end of the semester. (Copies of the contract form and instructions are available on the “forms” section of the cognitive sciences Web site.)

**Core Courses**

The core courses are divided into five groups. Majors just take one course from each group.

**Computer Science**

Though all of these courses may be used to satisfy the computer science core requirements, no more than one may be taken for credit within the major

- CAAM 210 Introduction to Engineering Computation
- COMP 140 Computational Problem Solving
- COMP 200 Elements of Computer Science
- COMP 201 Principles of Object-Oriented Programming

**Psychology**

- PSYC 203 Introduction to Cognitive Psychology

**Linguistics**

- LING 200 Introduction to the Scientific Study of Language
- LING 306 Language and the Mind
- LING 315 Semantics

**Philosophy**

- PHIL 103 Philosophical Aspects of Cognitive Science
- PHIL 305 Mathematical Logic
- PHIL 312 Philosophy of Mind

**Advanced Psychology**

- PSYC 308 Memory
- PSYC 309 Psychology of Language
- PSYC 351 Psychology of Perception
- PSYC 360 Thinking
- PSYC 362 Biopsychology
- PSYC 430 Computational Modeling of Cognitive Processes
- PSYC 432 Brain and Behavior

**Additional Courses**

At least three and no more than four courses must be in one of the following areas of concentration: linguistics, philosophy, psychology, or neuroscience. Note: you may not use the same courses to fulfill both a core course requirement and an additional course requirement; in other words, no double counting.

**Cognitive Sciences**

- CSCI 390 Supervised Research in Cognitive Sciences
- CSCI 481 Honors Project

**Computer Science**

- COMP 211 Principles of Program Design
COMP 440 Artificial Intelligence
COMP 450 Algorithmic Robotics

**Linguistics**
LING 200 Introduction to the Scientific Study of Language
LING 300 Linguistic Analysis
LING 301 Phonetics
LING 304 Introduction to Syntax
LING 306 Language and the Mind
LING 311 Phonology
LING 314 Second Language Acquisition
LING 315 Semantics
LING 317 Language and Computers
LING 320 The Origins and Evolution of Human Language
LING/PSYC 325 Language Acquisition
LING 403 Foundations of Modern Linguistics
LING 404 Research Methodologies and Linguistic Theories
LING 405 Discourse Analysis
LING 411 Neurolinguistics
LING 419 Bilingualism
LING 420 Cognition and L2 Acquisition

**Neuroscience**
Many of the neuroscience courses are taught by Baylor College of Medicine faculty.
For more information, see www.ruf.rice.edu/~neurosci/neurocoursesmain.html.
BIOS 421 Neurobiology
CAAM 415 Theoretical Neuroscience
ELEC 481 Computational Neuroscience
LING 411 Neurolinguistics
PSYC 362 Biopsychology
PSYC 432 Brain and Behavior
NEUR 500 Functional Neuroanatomy and Systems Neuroscience
NEUR 501 Cognitive Neuroscience I
NEUR 502 Cognitive Neuroscience II
NEUR 503 Molecular Neuroscience I and II
NEUR 504 Cellular Neurophysiology I and II
NEUR 505 Optical Imaging in Neuroscience
NEUR 506 Learning and Memory
NEUR 515 Neural Development

**Philosophy**
PHIL 103 Philosophical Aspects of Cognitive Science
PHIL 303 Theory of Knowledge
PHIL 305 Mathematical Logic
PHIL 312 Philosophy of Mind
PHIL 353 Philosophy of Language
PHIL 357 Incompleteness, Undecidability, and Computability

**Psychology**
PSYC 308 Memory
PSYC 309 Psychology of Language
PSYC 321 Developmental Psychology
PSYC/LING 325 Language Acquisition
PSYC 340 Research Methods
PSYC 351 Psychology of Perception
PSYC 360 Thinking
PSYC 362 Biopsychology
PSYC 370 Introduction to Human Factors
PSYC 375 Neurophysiology of Language and Memory
PSYC 409 Methods in Human-Computer Interaction
PSYC 411 History of Psychology
PSYC 430 Computational Modeling of Cognitive Processes
PSYC 432 Brain and Behavior (formally cross-listed as CSCI 420)
PSYC 441 Human-Computer Interaction
PSYC 465 Olfactory Perception
PSYC 471 Introduction to fMRI

**Other**
ANTH 406 Cognitive Studies in Anthropology and Linguistics
ELEC 201 An Introduction to Engineering Design
ELEC 498 Introduction to Robotics
STAT 300 Model Building

*Note: Rice-Baylor neuroscience offerings change frequently. Baylor courses not on the above list may be counted at the discretion of the steering committee. The most up-to-date listing of courses counting as additional courses is found at cogsci.rice.edu.
DEGREES OFFERED: BA, MCAM, MCSE, MA, PhD

Courses within this major can provide foundations applicable to the many fields of engineering, physical sciences, life sciences, behavioral and social sciences, and computer science. Undergraduate majors have considerable freedom to plan a course of study consistent with their particular interests.

The professional degree (MCAM), for persons interested in practicing within this field, emphasizes general applied mathematics, operations research and optimization, and numerical analysis, while the MA and PhD programs concentrate on research. Faculty research interests fall in the four general areas of numerical analysis and computation; physical mathematics; operations research and optimization; and mathematical modeling in physical, biological, or behavioral sciences.

A further advanced degree program in computational science and engineering (CSE) addresses the current need for sophisticated computation in both engineering and the sciences. Such computation requires an understanding of parallel and vector capabilities and a range of subjects including visualization, networking, and programming environments. An awareness of a variety of new algorithms and analytic techniques also is essential to maximizing the power of the new computational tools.
A joint MBA/Master of Engineering degree also is available in conjunction with the Jesse H. Jones Graduate School of Management.

**Degree Requirements for BA in Computational and Applied Mathematics**

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). Students majoring in computational and applied mathematics are required to complete the 53–56 semester hours spelled out in the following program of study.

**Introductory Courses:** Typically completed during the first two years

- CAAM 210 *Introduction to Engineering Computation*
- CAAM 335 *Matrix Analysis*
- COMP 140 *Computational Thinking* (or COMP 160 or COMP 170)

*Students with prior experience with calculus and/or computational science may petition the department for a waiver.*

+Students may substitute Honors Calculus sequence (MATH 221, 222) for MATH 212.

Entering students should enroll in the most advanced course commensurate with their background; advice is available from the CAAM department during Orientation Week.

**Intermediate Courses:** Typically completed by the end of the third year

- CAAM 336 *Differential Equations in Science and Engineering*
- CAAM 378 *Introduction to Operations Research and Optimization*
- (or STAT 310 *Probability and Statistics* or STAT 331 *Applied Probability*)
- CAAM 401 *Analysis I*
- CAAM 402 *Analysis II*

**Advanced Courses:** Typically completed during the fourth year

- CAAM 453 *Numerical Analysis I*
- CAAM 454 *Numerical Analysis II*

**Design Project:** Typically completed during the fourth year

- CAAM 495 *Senior Design Project I*
- CAAM 496 *Senior Design Project II*

**Electives:** Four courses at 300 level or above; two of which must be at the 400-level or above (chosen in consultation with a CAAM undergraduate advisor).

**Highly Recommended Electives:**

- CAAM 415 *Theoretical Neuroscience*
- CAAM 420 *Computational Science I*
- CAAM 423 *Partial Differential Equations I*
- CAAM 436 *Partial Differential Equations of Mathematical Physics*
- CAAM 560 *Optimization Theory*
- MATH 425 *Integration Theory*
- MATH 427 *Complex Analysis*
- STAT 431 *Overview of Mathematical Statistics*
**Course Requirements for a Minor in Computational and Applied Mathematics**

Six classes total (18 credits)

Required classes:
- CAAM 210 *Introduction to Engineering Computation*
- CAAM 335 *Matrix Analysis*

One of the following:
- CAAM 336 *Differential Equations in Science and Engineering*
- CAAM 378 *Introduction to Operations Research and Optimization*

Elective classes:
- Three electives (3 credits each): CAAM courses at the 300 level or above, including at least two classes at the 400 level or above.

**Degree Requirements for MCAM, MA, and PhD in Computational and Applied Mathematics**

**Admission**—Admission to graduate study in computational and applied mathematics is open to qualified students holding bachelor's or master's degrees (or their equivalent) in engineering; mathematics; or the physical, biological, mathematical, or behavioral sciences. Department faculty evaluate the previous academic record and credentials of each applicant individually. For general information, see Graduate Degrees (Graduate Students section, pages 3–4) and Admission to Graduate Study (Graduate Students section, pages 2–3).

Applicants should be aware that it normally takes two years to obtain a master's degree and an additional two to four years for the doctoral degree.

**MCAM Program**—This professional degree program emphasizes the applied aspects of mathematics. The MCAM degree requires satisfactory completion of at least 30 semester hours of course work approved by the department.

**MA Program**—For an MA in computational and applied mathematics, students must:
- Complete at least 30 semester hours at the graduate level, including five courses in computational and applied mathematics, in addition to thesis work
- Produce an original thesis acceptable to the department
- Perform satisfactorily on a final public oral examination on the thesis

For students working toward the PhD, successful performance on the master's thesis may fulfill the PhD thesis proposal requirements upon approval by the thesis committee.

**PhD Program**—For a PhD in computational and applied mathematics, students must:
- Complete a course of study approved by the department
- Perform satisfactorily on preliminary and qualifying examinations and reviews
- Produce an original thesis acceptable to the department
- Perform satisfactorily on a final public oral examination on the thesis

**Financial Assistance**—Graduate fellowships, research assistantships, and graduate scholarships are available and are awarded on the basis of merit.
to qualified students. Current practice in the department is for most doctoral students in good standing to receive some financial aid.

**Degree Requirements for Master’s in Computational Science and Engineering (MCSE)**

Recognizing the ubiquity of sophisticated computational needs in many modern professions, the Departments of Computational and Applied Mathematics, Computer Science, and Statistics have established a professional master's degree program in computational science and engineering (MCSE). This program provides a resource for training and expertise in modern computational techniques that will find application in a wide range of industries and technical and managerial functions within them.

The MSCE curriculum emphasizes computational mathematics for science and engineering applications, scientific data analysis and visualization, high-performance computing, and software development tools for parallel and vector computers. The elective courses in the curriculum allow for the application of these techniques to any area of scientific or engineering specialization.

The program is administered by a faculty committee from the Departments of Computational and Applied Mathematics, Computer Science, and Statistics. Applicants should have a background comparable to an engineering or science bachelor's degree, with adequate training in engineering mathematics, statistical foundations, and programming methodology. They will apply directly to the MCSE program, and admitted students will work with their faculty advisors to develop study plans that meet the program requirements while allowing them to pursue individual specialization interests. The MCSE program requires a minimum of 36 hours of advanced study to be approved by the faculty committee. Details on course of study are found on the program Web site.

**Degree Requirements for PhD in Computational Science and Engineering**

**CSE Program Area**—Recognizing the increasing reliance of modern science and engineering on computation as an aid to research, development, and design, the Department of Computational and Applied Mathematics, in conjunction with the Departments of Biochemistry and Cell Biology, Earth Science, Computer Science, Chemical and Biomolecular Engineering, Electrical and Computer Engineering, Civil and Environmental Engineering, and Statistics, has established an advanced degree program in computational science and engineering (CSE). The program focuses on modern computational techniques and provides a resource for training and expertise in this area.

The program is administered by a faculty committee chosen by the deans of engineering and natural sciences. The Computational Science Committee (CSC) helps students design an appropriate course of study and sets the examination requirements.

Students may enter the CSE program either directly or indirectly through one of the participating departments (see list above). In all cases, however, students must fulfill the admissions requirements of their associated department. Students then meet the normal requirements for graduate study within that department in every way (including teaching and other duties), except that the curriculum and examination requirements are set by the CSC.
Study at the doctoral level seeks to advance the field through original research. For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4). For the PhD in computational science and engineering, students must:

- Complete a course of study approved by the CSC, including at least two courses outside the major area
- Perform satisfactorily on preliminary and qualifying examinations and reviews
- Produce an original thesis acceptable to the CSC
- Perform satisfactorily on a final public oral examination on the thesis

See CAAM in the Courses of Instruction section.
Computer Science

The George R. Brown School of Engineering

Chair
Joe Warren

Professors
Robert S. Cartwright, Jr.
Keith Cooper
Ronald N. Goldman
G. Anthony Gorry
Dave Johnson
Lydia Kavraki
John Mellor-Crummey
Krishna Palem
Vivek Sarkar
Devika Subramanian
Moshe Y. Vardi
Joe D. Warren

Adjunct Professors
Wah Chiu
Jack Dongarra
S. Lennart Johnsson
P. Read Montague
Leendert van Doorn

Associate Professors
Alan L. Cox
Chris M. Jermaine
Scott Rixner
Dan Wallach

Assistant Professors
James McLurkin
Luay Nakhleh
Eugene Ng
Walid Taha

Adjunct Associate Professors
Robert Fowler
Scott K. Warren

Adjunct Instructor
Chris Bronk

Faculty Fellow
William Scherer

Research Scientists
Zoran Budimlic
Michael Fagan
Timothy Harvey
Guohua Jin
Charles Koelbel
Mark Moll
Linda Torczon

Lecturers
John Greiner
Dung "Zung" Nguyen
Stephen Wong

Postdoctoral Research Associates
Laksono Adhianto
Amit Bhatia
Ronald Garcia
Yoad Lustig
Jun Shiraki
Eddy Westbrook
Yonghong Yan
Jisheng Zhao

Professor in the Practice
Scott E. Cutler

Joint Appointments

With Electrical and Computer Engineering
Professor
Joseph Cavallaro
Edward Knightly
Peter Varman

Associate Professors
Yehia Massoud
Michael Byrne

Assistant Professors
Farinaz Koushanfar
Kartik Mohanram
Lin Zhong

With Mechanical Engineering
Assistant Professor
Marcia K. O’Malley

With Chemistry
Professor
James Tour
Research Professor
Peter Druschel
Degrees Offered: BA, BSCS, MCS, MS, and PhD

Computer science is concerned with the study of computers and computing, focusing on algorithms, programs and programming, and computational systems. The main goal of the discipline is to build a systematic body of knowledge, theories, and models that explain the properties of computational systems and to show how this body of knowledge can be used to produce solutions to real-world computational problems. Computer science is the intellectual discipline underlying information technology, which is widely accepted now as the ascendant technology of the next century. Students in computer science at Rice benefit from the latest in equipment and ideas as well as the flexibility of the educational programs. The research interests of the faculty include algorithms and complexity, artificial intelligence and robotics, compilers, distributed and parallel computation, graphics and visualization, operating systems, and programming languages.

The department offers two undergraduate degrees: the Bachelor of Arts degree (BA) and the Bachelor of Science in Computer Science degree (BSCS). The department offers two master's degrees: the professional Master of Computer Science degree (MCS) and the research-oriented Master of Science degree (MS). The department also offers a doctoral degree (PhD).

A joint MBA/Master of Engineering degree also is available in conjunction with the Jesse H. Jones Graduate School of Management.

Degree Requirements for BA in Computer Science

For general university requirements, see Graduation Requirements (Undergraduate Student section, pages 2–5). The undergraduate program in computer science has been designed to accommodate a wide range of student interests. The program is sufficiently flexible for a student to customize it to his or her interests. A student can develop a broad educational program that couples computer science education with a variety of other fields in engineering, natural sciences, the humanities, or social sciences. Alternatively, a program might be designed for a student preparing for graduate study in computer science or for a career in computing and information technology.

The undergraduate program consists of required math and science courses; computer science core courses, including introductory courses and upper-level courses ensuring knowledge in a broad range of areas; and computer science electives, which give students the freedom to explore specific interests. Students earning a BA in computer science must complete at least 58 semester hours of courses in the major and at least 120 semester hours in total.

Math and Science Courses

Six courses for a total of 18 hours, required for all majors, usually taken in the freshman and sophomore years:

- MATH 101 Single Variable Calculus I
- MATH 102 Single Variable Calculus II
- One of: MATH 211 Ordinary Differential Equations and Linear Algebra or MATH 221 Honors Calculus III

One of:

- MATH 212 Multivariable Calculus or MATH 222 Honors Calculus IV
- One of: STAT 331 Applied Probability or STAT 310 Probability and Statistics
- One of: MATH 355 Linear Algebra or MATH 354 Honors Linear Algebra or CAAM 335 Matrix Analysis
The BS degree is designed for students who are interested in a more in-depth study of computer science to prepare themselves for a professional career in the computing industry. To receive a BS degree, a student must complete all the previously described requirements of the BA degree, plus the following additions. Students earning a BS in computer science must complete at least 80 semester hours of courses in the major and at least 128 semester hours in total.

**Capstone Sequence**

At least four courses for a total of at least 15 hours:

A coherent set of courses in some computer science specialization and including a design component (one of COMP 402 Production Programming, COMP 410 Software Engineering Methodology, COMP 460 Advanced Computer Game Creation). Students can adopt a preset cap or design their own, with advisor approval. Samples are listed on the department’s Web site.

**Degree requirements for BS in Computer Science**

The BS degree is designed for students who are interested in a more in-depth study of computer science to prepare themselves for a professional career in the computing industry. To receive a BS degree, a student must complete all the previously described requirements of the BA degree, plus the following additions. Students earning a BS in computer science must complete at least 80 semester hours of courses in the major and at least 128 semester hours in total.

**Additional Math and Science Courses**

Two courses for a total of at least seven hours.

One of: PHYS 101 Mechanics  
or PHYS 111 Mechanics  
or PHYS 125 General Physics

One of: PHYS 102 Electricity and Magnetism  
or PHYS 112 Electricity and Magnetism  
or PHYS 126 General Physics II

**Computer Science Core Courses**

Nine courses for a total of 34 hours.

One of: COMP 140 An Integrated Introduction to Computation and Problem Solving  
or COMP 160 Introduction to Computer Gaming  
or COMP 170 Computational Thinking in Biology  
COMP 211 Principles of Program Design  
ELEC 220 Fundamentals of Computer Engineering  
COMP 221 Introduction to Computer Organization

**Computer Science Electives**

Two courses for a total of at least six hours in computer science at the 300 level or higher. One of these may be an independent study project.

**Degree Requirements for MCS and MS in Computer Science**

For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4). The professional MCS degree is a terminal degree for students intending to pursue a technical career in the computer industry. To earn the MCS degree, students must successfully complete 30 semester hours of course work approved by the department and following the plan formulated in consultation with the department advisor. In general, the courses must be at the 400 level or above. At least four hours must be at the 500 level or above, excluding COMP 590.
Areas of concentration for the MCS include algorithms and complexity, artificial intelligence, compiler construction, distributed and parallel computing, graphics and geometric modeling, operating systems, and programming languages. The professional program normally requires three semesters of study.

The MCS degree with a concentration in bioinformatics is for students intending to pursue a technical career in the biotechnology industry. Students learn to integrate mathematical and computational methods to analyze biological, biochemical, and biophysical data. This program requires prior background in computer science, biosciences, and mathematics. To earn this degree, students must successfully complete 40 hours of approved course work meeting departmental requirements. This program normally requires four semesters of study.

The MS degree is a research degree requiring a thesis in addition to course work.

**Degree Requirements for PhD in Computer Science**

The PhD degree is for students planning to pursue a career in computer science research and education. The doctoral program normally requires four to six years of study. To earn a PhD in computer science, students must:

- Meet departmental course requirements
- Complete a COMP 590 project by the end of the third semester
- Complete a master's thesis by the end of the fifth semester, if a previous master's thesis has not been approved by the graduate committee
- Pass a qualifying examination in an area of specialization within seven semesters after entering the PhD program
- Conduct original research, submit an acceptable PhD thesis proposal, and successfully defend the thesis proposal
- Submit an acceptable PhD thesis that reports research results and pass a final oral defense

Students who successfully meet the first three requirements are awarded the Master of Science degree. Students successfully meeting all requirements, plus any departmental and university requirements, are awarded the PhD degree.

**Financial Assistance**—Fellowships and research assistantships are available to students in the PhD program. Both provide a monthly stipend for the academic year and cover all tuition expenses. More substantial monthly stipends may be available during the summer for students working on departmental research projects. In all cases, continued support is contingent on satisfactory progress in the program. PhD students also are expected to assist in the teaching and administration of undergraduate and graduate courses.

**Additional Information**—For further information and application materials, write the Department of Computer Science–MS 132, Rice University, P.O. Box 1892, Houston, Texas 77251-1892.

**See COMP in the Courses of Instruction section.**
Earth Science

The Wiess School of Natural Sciences

Chair
Alan Levander

Professors
John B. Anderson
Gerald R. Dickens
André W. Droxler
Richard G. Gordon
Adrian Lenardic
Andreas Luttge
Julia Morgan
Dale S. Sawyer
Colin Zelt

Associate Professors
Cin-Ty Lee
Fenglin Niu

Assistant Professors
Rajdeep Dasgupta
Brandon Dugan
Helge Gonnermann
Caroline Masiello

Adjunct Professors
K. K. Bissada
Stephen H. Danbom
Jeffrey J. Dravis
Paul M. Harris
Thomas A. Jones
Stephen J. Mackwell
W. C. Rusty Riese
Juan Antonio Simo
John C. Van Wagoner
Fred M. Weaver
Adjunct Associate Professors
Vitor Abreu
David L. Olgaard

Adjunct Assistant Professors
Alan D. Brandon
Cornelius Fischer
Patrick J. McGovern
Christian A. Noll
Stephanie S. Shipp
Julia S. Wellner

Earth Science Research Scientists
Rolf Arvidson
Glen Snyder

Visiting Research Scientists
Tibisay Perez
Maik Pertermann

Earth Science Lecturers
Vitor Abreu
Stephen H. Danbom
Alison T. Henning
W. C. Rusty Riese

Earth Science Postdoctoral Research Associates
Aimin Cao
William Hockaday
Tobias Hoeink
Priyank Jaiswal
Veronique Le Roux
Peter Luffi
Everett Salas
Bing Shen
Elizabeth Vanacore

Earth Science Joint Appointment (with Chemistry)
Andreas Luttge

ESCI Degrees Offered: BA, BS, MS, PhD

All undergraduate majors in earth science take a four-course core sequence, typically in the sophomore and junior years, on earth processes, materials, observations, and history. Majors also take a course in geological field techniques and introductory courses in mathematics, chemistry, and in many cases, physics and biology.

The selection of upper-division courses and additional science courses depends on which major, BA or BS, and, for the BS major, which of five tracks are chosen by the student: geology, geochemistry, geophysics, environmental earth science, or a track designed by the student subject to the approval of the department undergraduate advisor. The program of study typically includes experience with analytical equipment, computer systems, and fieldwork.

The BS in earth science degree should be chosen by students planning a career or further study in earth science or a related field. The BA in earth science degree has fewer requirements and might be a good choice for students planning a career or further study to which earth science is incidental.
Degree Requirements for BS in Earth Science

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5).

BS majors also must complete the “Additional Requirements” for one track (described below).

The following courses are required for all tracks:

- MATH 101/102 Single Variable Calculus I and II
- CHEM 121/122 or 151/152 General Chemistry I and II with lab
- PHYS 101/102 or 111/112 Introductory Physics I and II with lab

Additional Requirements for the Geology Track

The following courses are required:

- MATH 211 Ordinary Differential Equations and Linear Algebra
- ESCI 390 Geology Field Camp
- ESCI 442 Exploration Geophysics I

Choose one of the following courses:

- COMP 110 Computation in Natural Science
- CAAM 210 Introduction to Engineering Computation
- COMP 210 Principles of Computing and Programming

Choose one of the following courses:

- ESCI 412 Advanced Petrology
- ESCI 430 Principles of Trace-Element and Isotope Geochemistry

Choose one of the following courses:

- ESCI 427 Sequence Stratigraphy
- ESCI 521 Seminar in Applied Micropaleontology

Choose one of the following courses:

- ESCI 504 Siliciclastic Depositional Systems
- ESCI 506 Carbonate Depositional Systems
- ESCI 421 Paleoceanography

Choose one of the following courses:

- ESCI 418 Quantitative Hydrogeology
- ESCI 463 Advanced Structural Geology
- ESCI 428 Geologic Interpretation of Reflection Seismic Profiles
- ESCI 464 Global Tectonics

Additional Requirements for the Geochemistry Track

The following courses are required:

- BIOS 201 Introductory Biology I
- ESCI 390 Geology Field Camp or
  ESCI 391 Earth Science Field Experience

Choose nine hours from the following:

- ESCI 340 Global Biogeochemical Cycles
- ESCI 412 Advanced Petrology
- ESCI 421Paleoceanography
- ESCI 425 Organic Geochemistry
- ESCI 458 Thermodynamics/Kinetics for Geoscientists
- ESCI 203 Biogeochemistry

Choose eight hours from the following:

- All upper division ESCI courses
- CEVE 401 Introduction to Environmental Chemistry
- CEVE 403 Principles of Environmental Engineering
- CEVE 434 Chemical Transport and Fate in the Environment
- CEVE 532 Physical-Chemical Processes in Environmental Engineering
- CEVE 534 Transport Phenomena and Environmental Modeling
CEVE 550 Environmental Organic Chemistry
BIOS 202 Introductory Biology
BIOS 211 Introductory Lab Module in Biological Science
CHEM 211/212 Organic Chemistry
CHEM 311/312 Physical Chemistry
CHEM 415 Chemical Kinetics and Dynamics
CHEM 495 Transition Metal Chemistry

MATH 211 Ordinary Differential Equations and Linear Algebra
MATH 212 Multivariable Calculus
COMP 110 Computation Science and Engineering
CAAM 210 Introduction to Engineering Computation
COMP 210 Introduction to Principles of Scientific Computing

**Additional Requirements for the Geophysics Track**

*The following courses are required:*
- MATH 211 Ordinary Differential Equations and Linear Algebra
- MATH 212 Multivariable Calculus
- PHYS 201 Waves and Optics
- PHYS 231 Elementary Physics Lab II
- ESCI 390 Geology Field Camp or ESCI 391 Earth Science Field Experience

*Choose one of the following courses:*
- COMP 110 Computation in Natural Science
- CAAM 210 Introduction to Engineering Computation
- COMP 210 Principles of Computing and Programming

*Choose six hours from the following:*
- ESCI 418 Quantitative Hydrogeology
- ESCI 440 Geophysical Data Analysis: Digital Signal Processing

*Additional Requirements for the Environmental Earth Science Track*

*The following courses are required:*
- MATH 211 Ordinary Differential Equations and Linear Algebra
- BIOS 201 Introductory Biology I

*Choose one of the following courses:*
- COMP 110 Computation in Natural Science
- CAAM 210 Introduction to Engineering Computation
- COMP 210 Principles of Computing and Programming

*Choose 11 hours from the following, including at least two courses in ESCI:*
- ESCI 340 Global Biogeochemical Cycles

*ESCI 441 Geophysical Data Analysis: Inverse Theory*
*ESCI 442 Exploration Geophysics I*
*ESCI 444 Exploration Geophysics II*
*ESCI 450 Remote Sensing*
*ESCI 454 Geographic Information Science*
*ESCI 461 Seismology I*
*ESCI 462 Tectonophysics*
*ESCI 464 Global Tectonics*
*ESCI 532 Advanced Global Tectonics*
*ESCI 542 Seismology II*

*Choose six hours from the immediately preceding or following lists:*
- Any three- or four-hour course in ESCI with a number between 411 and 475, except for research and special studies
- Any 300- or 400-level MATH, CAAM, or PHYS class
- CHEM 311 Physical Chemistry
The following courses are required:

- MATH 101/102 Single Variable Calculus I and II
- CHEM 121/122 or 151/152 General Chemistry I and II with lab
- ESCI 321 Earth System Evolution and Cycles
- ESCI 322 Earth Chemistry and Materials
- ESCI 323 Earth Structure and Deformation with lab
- ESCI 324 Earth’s Interior
- ESCI 334 Geological and Geophysical Techniques

Choose six hours from the following:

- BIOS 201/202 Introductory Biology I and II
- COMP 110 Computation in Natural Science
- CAAM 210 Introduction to Engineering Computation
- COMP 210 Principles of Computing and Programming
- CHEM 311/312 Physical Chemistry I and II
- MATH 211 Ordinary Differential Equations and Linear Algebra

Choose nine hours from the following:

- BIOS 201 Introductory Biology I
- COMP 110 Computation in Natural Science
- CAAM 210 Introduction to Engineering Computation
- COMP 210 Principles of Computing and Programming
- CHEM 211 Organic Chemistry
- MATH 211 Multivariable Calculus
- PHYS 201 Waves and Optics
- PHYS 203 Atmosphere, Weather, and Climate
- ESCI 390 Geology Field Camp or
- ESCI 391 Earth Science Field Experience

Choose 12 hours of additional courses numbered 300 or higher targeting a coherent theme selected with approval of the department undergraduate advisor.

Degree Requirements for BA in Earth Science

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5).

The following courses are required:

- MATH 101/102 Single Variable Calculus I and II
- CHEM 121/122 or 151/152 General Chemistry I and II with lab
- ESCI 321 Earth System Evolution and Cycles
- ESCI 322 Earth Chemistry and Materials
- ESCI 323 Earth Structure and Deformation with lab
- ESCI 324 Earth’s Interior
- ESCI 334 Geological and Geophysical Techniques

Choose six hours from the following:

- BIOL 201/202 Introductory Biology I and II
- BIOL 211, 213 Biology Lab Modules

Choose four upper division ESCI courses, approved by the department undergraduate advisor.

Choose six hours in science and engineering (including ESCI) courses at the 200 level or above approved by the department undergraduate advisor.
Undergraduate Independent Research

The department encourages, but does not require, earth science undergraduate majors to pursue independent supervised research in ESCI 481 Research in Earth Science. See also Honors Programs (Undergraduate Students section, pages 14–15).

Degree Requirements for MS and PhD in Earth Science

All incoming students should have a strong background in physics, chemistry, and mathematics and should have, or should acquire, a broad grounding in fundamental earth science. The department encourages applications from well-qualified students with degrees in the other sciences and mathematics. For general university requirements, see Graduate Degrees (Graduate Student section, pages 3–4). The requirements for the MS and PhD in earth science are similar, but the PhD demands a significantly higher level of knowledge, research skills, and scholarly independence. Most students need at least two years beyond the bachelor's degree to complete the MS and at least two years beyond the MS degree for the PhD.

Candidates determine, with their major professor and thesis committee, a course of study following the Guidelines for Advanced Degrees in the Department of Earth Science distributed to all incoming students. For both degrees, candidates must:

- Complete 20 semester hours of course work at the 400 level and above (or other approved courses), not including research hours
- Pass a written preliminary exam
- Maintain a grade point average of 3.00 (B) or better
- Prepare a written thesis
- Produce a publishable thesis that represents an original contribution to science
- Defend the research and conclusions of the thesis in an oral examination

Students of exceptional ability with a bachelor's degree and department approval may work directly toward the PhD, in which case the course of study is equivalent to that required for both degrees; performance on the examinations and the thesis, however, should be at the level required for the PhD. Because the graduate programs require full-time study and close interaction with faculty and fellow students, the department discourages students from holding full (or nearly full) time jobs outside the university. Outside employment must be approved by the chair.

See ESCI in the Courses of Instruction section.
ECONOMICS

THE SCHOOL OF SOCIAL SCIENCES

Chair
Mahmoud El-Gamal

Professors
Dagobert L. Brito
Bryan W. Brown
James N. Brown
John B. Bryant
Malcolm Gillis
Simon Grant
Peter Hartley
Vivian Ho
Hervé Moulin
Robin C. Sickles
Ronald Soligo
Ted Temzelides
George R. Zodrow

Professors Emeriti
Donald L. Huddles
Peter Mieszkowski

Associate Professors
Gordon W. Smith
Richard Boylan
Anna Bogomolnaia
Marc Peter Dudey

Assistant Professors
Camelia Bejan
Borghan Narajabad
Natalia Sizova
Siyang Xiong

Adjunct Professors
Bruce M. Lairson
John Michael Swint

Adjunct Associate Professor
Charles E. Begley

Adjunct Assistant Professor
John Diamond
Kenneth Medlock

Degrees Offered: BA, MA, PhD

Undergraduates may major in either economics or mathematical economic analysis (but not both). The major in mathematical economic analysis is recommended for students who intend to pursue graduate work in economics or a business or governmental job in which extensive analytical and quantitative skills are required.

Please note that it is primarily the responsibility of the student to satisfy all degree requirements, including the university credit requirements and university distribution requirements specified elsewhere in the General Announcements. Students are advised that the relevant departmental requirements are those in effect on the day that the student declares economics as their major. Major requirements are not reduced for students with multiple majors, although some courses can satisfy the requirements for more than one major.

The eight fields of specialization available for graduate study are econometrics, economic development, economic theory, industrial organization and regulation, international trade and finance, labor, macroeconomics and/or monetary theory, and public finance.

Degree Requirements for BA in Economics

1. All economics majors must complete a minimum of 10 courses with a grade point average of at least 2.0. When students repeat courses or complete more than the minimally required number of courses, the departmental GPA will be based on the set of courses that (i) satisfies all requirements for the degree and (ii) results in the highest GPA for the student.

2. The 10 courses counted for the degree must include the following:
   • ECON 211 Principles of Economics
   • ECON 370 Microeconomic Theory
2 Department / Economics

- ECON 375 Macroeconomic Theory
- STAT 280 Elementary Applied Statistics or ECON 382/STAT 310 Probability and Statistics
- ECON 446 Applied Econometrics or ECON 400 Econometrics

Please note that ECON 370 lists MATH 101 (or the combination of MATH 111 and 112) as a prerequisite. We recommend that economics majors take MATH 101, STAT 280 (or ECON 382/STAT 310), ECON 211, and ECON 370 as early as possible. Because these courses are listed as prerequisites for more advanced courses, failure to take these courses in earlier years may cause scheduling problems in later years.

3. The remaining five courses must be selected from the following:

| ECON 250 Foundations of Public Sector Economics | ECON 450 World Economy and Social Development |
| ECON 340 Introduction to Game Theory | ECON 451 Economy of Latin America |
| ECON 348 Organizational Design | ECON 452 Religion, Ethics, and Economics |
| ECON 355 Financial Markets | ECON 455 Money and Financial Markets |
| ECON 400 Econometrics | ECON 461 Urban Economics |
| ECON 403/404 Senior Independent Research | ECON 475 Integer and Combinational Optimization |
| ECON 415 Labor Economics | ECON 477 Mathematical Structure of Economic Theory |
| ECON 420 International Trade | ECON 479 Economic Modeling and Public Policy |
| ECON 421 International Finance | ECON 480 Environmental Economics |
| ECON 435 Industrial Organization | ECON 481 Health Economics |
| ECON 436 Regulation | ECON 482 Distributive Justice: A Microeconomic Approach |
| ECON 437 Energy Economics | ECON 483 Public Finance: Tax Policy |
| ECON 438 Business, Law, and Economics | ECON 484 Public Expenditure Theory and Social Insurance |
| ECON 439 Torts, Property, and Contracts | ECON 485/486 Contemporary Economic Issues |
| ECON 440 Advanced Game Theory | ECON 495/496 Senior Seminar |
| ECON 445 Managerial Economics | |
| ECON 447 Advanced Topics in Energy Economics | |
| ECON 448 Corporate Finance | |
| ECON 449 Basics of Financial Engineering | |

No more than three of the 10 courses counted for the degree may be transferred from other schools if those courses are taken after matriculation at Rice. Additional transfer credits in economics may count toward meeting university graduation requirements but not toward fulfillment of the departmental major requirements. AP credits and credits awarded to transfer students for courses taken prior to matriculation at Rice are not counted against the limit on transfer courses, but all students must complete more than half of their upper-level major work at Rice. In order to receive transfer credit for ECON 211, students must pass a qualifying examination. Students wishing to take the ECON 211 qualifying examination must apply to the economics department office in Baker Hall 255. For additional information on transfer credits, consult “Procedures for Transfer Credit,” available on the economics department’s Web site at www.ruf.rice.edu/~econ/undergrad.html.

Qualifying students may graduate with departmental honors in economics by achieving a B+ (3.33) average in the 10 courses counted for the degree and completing two semesters of independent research. For additional information on the requirements for honors in economics, consult the economics department’s Web site at www.ruf.rice.edu/~econ/undergrad.html.
Degree Requirements for BA in Mathematical Economic Analysis

1. All MTEC majors must complete a minimum of 16 courses with a grade point average of at least 2.00. When students repeat courses or complete more than the minimally required number of courses, the departmental GPA will be based on the set of courses that (i) satisfies all requirements for the degree and (ii) results in the highest GPA for the student.

2. The 16 courses counted for the degree must include the following:

   (a) Five courses in mathematics and statistics
   MATH 101 Single Variable Calculus I
   MATH 102 Single Variable Calculus II
   MATH 211 Ordinary Differential Equations or MATH 355 Linear Algebra or CAAM 335 Matrix Analysis
   MATH 212 Multivariable Calculus or MATH 221 Honors Calculus III
   ECON 382/STAT 310 Probability and Statistics or STAT 410 Introduction into Regression and Statistical Computing or STAT 431 Overview of Mathematical Statistics

   (b) One course in econometrics
   ECON 400 Econometrics

   (c) Four courses in economic theory
   ECON 211 Principles of Economics
   ECON 370 Microeconomic Theory
   ECON 375 Macroeconomic Theory
   ECON 477 Mathematical Structure of Economic Theory

   (d) Four courses in applied economics, selected from
   ECON 250 Foundations of Public Sector Economics
   ECON 340 Introduction to Game Theory
   ECON 348 Organizational Design
   ECON 355 Financial Markets
   ECON 415 Labor Economics
   ECON 420 International Trade
   ECON 421 International Finance
   ECON 435 Industrial Organization
   ECON 436 Regulation
   ECON 437 Energy Economics
   ECON 438 Business, Law, and Economics
   ECON 439 Torts, Property, and Contracts
   ECON 440 Advanced Game Theory
   ECON 445 Managerial Economics
   ECON 446 Applied Economics
   ECON 447 Advanced Topics in Energy Economics
   ECON 448 Corporate Finance
   ECON 449 Basics of Financial Engineering
   ECON 450 World Economy and Social Development
   ECON 451 Economy of Latin America
   ECON 452 Religion, Ethics, and Economics
   ECON 455 Money and Financial Markets
   ECON 461 Urban Economics
   ECON 475 Integer and Combinational Optimization
   ECON 479 Economic Modeling and Public Policy
   ECON 480 Environmental Economics
   ECON 481 Health Economics
   ECON 482 Distributive Justice: A Microeconomic Approach
   ECON 483 Public Finance: Tax Policy
   ECON 484 Public Expenditure Theory and Social Insurance
   ECON 485/486 Contemporary Economic Issues

   (e) One semester of ECON 403/404 Senior Independent Research

   (f) One additional 400-level course in applied economics as listed in (d) or one additional semester of ECON 403/404 Senior Independent Research or an equivalent or higher level course approved in advance by the chair of the Undergraduate Committee
No more than three of the required economics courses and two of the required mathematics (or computational and applied mathematics or statistics) courses may be transferred from other schools if those courses are taken after matriculation at Rice. Additional transfer credits in economics, mathematics, computational and applied mathematics, or statistics may count toward meeting university graduation requirements but not toward fulfillment of the departmental major requirements.

AP credits and credits awarded to transfer students for courses taken prior to matriculation at Rice are not counted against the limit on transfer courses, but all students must complete more than half of their upper-level major work at Rice. In order to transfer ECON 211, students must pass a qualifying examination. Students wishing to take the ECON 211 qualifying examination must apply to the economics department office in Baker Hall 255. For additional information on transfer credits, consult “Procedures for Transfer Credit,” available on the economics department’s Web site at www.ruf.rice.edu/~econ/undergrad.html.

Qualifying students may graduate with departmental honors in mathematical economic analysis by achieving a B+ (3.33) average in the 16 courses counted for the degree. For additional information on the requirements for honors in mathematical economic analysis, consult the economics department’s Web site at www.ruf.rice.edu/~econ/undergrad.html.

**Concentration in Business Economics**

Students who complete the requirements for a major in economics or a major in mathematical economic analysis also may request a certification from the department that they have completed the requirements for a concentration in business economics. To qualify, a student must complete the following courses with minimum grade point average of at least 2.0:

1. ACCO 305/BUSI 305 *Introduction to Accounting*
2. The following electives for the economics or mathematical economic analysis major:
   - ECON 355 *Financial Markets*
   - ECON 438 *Business, Law, and Economics*
   - ECON 445 *Managerial Economics*
   - ECON 448 *Corporate Finance*
   
   Note that to complete their major requirements, economic majors will need to choose one additional 400-level elective beyond those chosen to satisfy requirement two.

**Substituting Economics Graduate Courses for Undergraduate Courses**—Undergraduate majors satisfying the course prerequisites may, subject to the approval of the instructor and of the departmental undergraduate committee chair, substitute certain graduate courses for undergraduate courses. Only highly motivated students with excellent aptitudes for economics and a strong background in mathematics should consider making such substitutions. Typically, but not necessarily, such students will be majors in mathematical economic analysis. Permitted substitutions are as follows:

- ECON 501 for ECON 370 (if student has completed ECON 211 at Rice)
- ECON 502 for ECON 375
- ECON 504 for ECON 382
- ECON 510 for ECON 400
• Furthermore, ECON 505 and ECON 508 also may be taken by undergraduates and may be used toward satisfying MTEC requirements. Specifically, ECON 505 could be used as one of the courses in the applied economics category or in the advanced analysis category, while ECON 508 could be used only in the advanced analysis category.

Note that this set of substitutable graduate courses includes six of the seven courses required during the first year of the PhD program at Rice. Accordingly, such advanced course work would be excellent preparation for graduate study in economics or in some related field such as finance. Taking such graduate courses also should open more opportunities for the student who will be seeking employment immediately after graduation.

The Five-Year MA Program

Advanced undergraduate students can, subject to the approval of the Economics Department Undergraduate Committee, enter our five-year MA program. In this program, a student who has taken advantage of the full menu of graduate course substitutions available could, with an additional year of study at Rice, earn an MA in economics.

To obtain the MA degree, students must satisfy all of the requirements for PhD candidacy. In particular, students must pass general examinations in microeconomic theory and in macroeconomic theory and econometrics, must pass an examination in a specialized field of study in economics, and must complete an original research project (a dissertation prospectus) that could be developed into a PhD dissertation under the supervision of a faculty member. This work could be an extension of a paper written as a senior independent research project (ECON 403/404). In some cases, at the discretion of the independent research advisor, the paper produced in ECON 403/404 may fulfill this requirement. Finally, the first-year graduate requirement to take ECON 507 Mathematical Economics would be waived with the approval of the departmental five-year MA advisor.

Note that any student who subsequently decides to enter the economics PhD program at Rice would be given graduate credit for all 500-level economics courses completed while an undergraduate. The completion of the PhD dissertation typically requires at least one additional year of research (but no additional courses) beyond the MA degree.

Students who opt for the five-year MA degree program will have different backgrounds and interests on entering Rice and will choose to pursue this option at different stages in their academic careers. The following illustrates two (of many) possible paths to satisfying the MTEC major requirements, while at the same time completing all of the requirements for the MA degree over a five-year period.

Courses: Sample Path One

The student enters with AP credit for ECON 211 and MATH 101/102 and has an early interest in the five-year MA program.

**Freshman Year**

- ECON 370, 375, 477, and MATH 211/212

**Sophomore Year**

- ECON 501; 1 course from Applied Economics category; and MATH 355 or CAAM 310

**Junior Year**

- ECON 502, 504, 505, 510, and 1 course from Applied Economics category

**Senior Year**

- ECON 403/404 and ECON 508

**Fifth Year**

- Complete all remaining graduate courses and pass all remaining examinations required to achieve PhD candidacy.
Courses: Sample Path Two

The student has no relevant AP credit and/or decides to enter the five-year MA program only near the end of the sophomore year.

**Freshman Year**
ECON 211 and MATH 101/102

**Sophomore Year**
ECON 370, 375, 477, and 1 course from applied economics category; MATH 211/212

**Junior Year**
ECON 501, 502, 505, 508; MATH 355 or CAAM 310

**Senior Year**
ECON 504, 510, 403/404, and 1 course from applied economics category

**5th Year**
Complete all remaining graduate courses and pass all remaining examinations required to achieve PhD candidacy.

Degree Requirements for PhD in Economics

**Preparation for PhD Program.** Applicants to the PhD program should have had at least two semesters in calculus and one in linear algebra. Students who have not met these requirements may complete these prerequisites as Class III students (Graduate Students section, pages 24–25) before being admitted to the graduate program. All applicants are required to take the Graduate Record Exam.

**Requirements.** For general university requirements, see Graduate Degrees (Graduate Students section, page 3–4). Candidates for the PhD degree usually spend from two to two and a half years in full-time course work and at least one year writing the dissertation; four to five years is a reasonable goal for completing the program. For the PhD, students must:

- Complete an approved program of at least 18 courses (including approved courses in other departments), no more than four of which are research workshops
- Perform satisfactorily on the written general examinations in microeconomics, macroeconomics, and econometrics
- Demonstrate proficiency in a major field by taking the relevant courses in that field and performing satisfactorily on a written examination
- Complete and defend orally a doctoral dissertation setting forth in publishable form the results of original research

See ECON in the Courses of Instruction section.
No degree is offered through the Department of Education. This department offers opportunities for students to explore the background, purposes, and organization of American schools, as well as the major issues facing education today. Research seminars allow students to engage in projects in a wide range of topics significant to education. Most courses require observation in the classroom.

Please see the section on Education Certification for information on the three teacher education plans offered at Rice:

1. A secondary teaching certificate in combination with the undergraduate degree in the elected subject field(s)
2. A Master of Arts in Teaching (MAT)
3. A postbaccalaureate plan for Class III students that involves taking those courses and state examinations needed for certification but that does not confer a degree
Students in the teacher education program at Rice show a commitment to teaching, a strong record of scholarship in their subject areas, and promise as thoughtful, engaging teachers. The program emphasizes a sound liberal arts education; extensive knowledge of the subject(s) or area(s) to be taught; professional knowledge, including the relevant historical, philosophical, social, and psychological bases of education; and skills in classroom teaching, which include working with both children and adults. Graduates emerge from the program fully prepared for the teaching profession and knowledgeable about a multitude of teaching styles and methods to meet the needs of the diverse student population in schools today.

Rice offers three teacher education plans: (1) a secondary teaching certificate in combination with the undergraduate degree in the elected subject field(s), (2) a Master of Arts in Teaching (MAT), and (3) a postbaccalaureate plan for Class III students that involves taking those courses and state examinations needed for certification but that does not confer a degree. All three plans include student teaching in the Rice Summer School for Grades 8–12. While maintaining its academic integrity, the Rice program complies with state of Texas certification requirements. Students seeking additional information about the teacher education program are encouraged to meet with an advisor in the Department of Education Certification.

Texas Teaching Credential—Rice is approved by the state of Texas to offer teacher preparation programs in the following fields: art, English language arts and reading, French, German, health science technology education, history, Latin, life sciences, mathematics, physical education, physical sciences, physics/mathematics, science, social studies, and Spanish.

After satisfactory completion of the Rice program, which includes the state-mandated TExES, TOPT, and/or ExCET examinations, students are recommended for a Texas teaching credential. The Texas Education Agency then awards a Texas Standard Teaching Certificate (Grades 8–12).

Student Teaching—Apprenticeship (Plan A) and Internship (Plan B) programs are available. Unpaid apprenticeships are for undergraduates who...
wish to complete the teacher education program in four years and two six-week summer sessions. Candidates enroll for the summer sessions following their junior and senior years. Apprentices create and teach courses under the supervision of experienced mentor teachers and university faculty in the Rice Summer School for Grades 8–12.

Paid internships are undertaken by Master of Arts in Teaching candidates, some Class III students, and undergraduates who begin earning certification in their senior year. Under this plan, students serve one apprenticeship in the Rice Summer School and then are supervised through their first semester of a full-time, paid internship in a neighboring, cooperating school system. Permission for the internship is contingent upon completing a successful apprenticeship.

Requirements for Secondary Teaching Certificate

Admission—Students may apply to the Rice University Department of Education Certification for admission to the teacher education program if they show:

- Attainment of junior standing at Rice (bachelor’s degree for MAT and Class III candidates) by the semester of admission to the program
- Grades of C- or better in all semester hours attempted in their teaching field(s) and a grade point average of 2.5 or better, both in courses in their teaching fields and overall
- Evidence of adequate physical vigor to perform as a teacher in a classroom
- Exemption or satisfactory scores on all required preprofessional skills tests

A completed plan of study approved by a department advisor and the major field advisor is required before admission to the program is complete.

Completion of Program—To complete the program, students must:

- Be exempted from or pass the Texas Higher Education Assessment (THEA) exam prior to enrolling in any education courses
- Complete the courses specified by the major field advisor(s). Lists of courses for each subject are available in the Education Certification Office
- Complete 18 hours in professional education courses as follows: Either EDUC 301/501 Philosophical, Historical, and Social Foundations of Education or EDUC 330/530 The American High School; EDUC 305/505 Educational Psychology; EDUC 420 Curriculum Development; three hours in the appropriate seminar(s) in teaching methods; and six hours in student teaching (see following)
- Satisfy a state requirement for computer literacy by completing three credits in computer use. EDUC 345 Computers in Education is recommended
- Complete all university and program requirements specified for undergraduates, MAT candidates, or nondegree (Class III) candidates
- Make grades of C- or better in all teaching field courses and education courses (B- or better for MAT and Class III students)
- Pass appropriate TExES, TOPT, ExCET, and/or language proficiency exams
Apprenticeship Plan (Plan A)  
(For students beginning certification in their junior year and for some Class III students)

**Junior Year**
- EDUC 301 *Philosophical, Historical, and Social Foundations of Education* or EDUC 330 *The American High School*
- EDUC 305 *Educational Psychology*
- EDUC 410–416 *Relevant seminar(s) in teaching methods*
- EDUC 420 *Curriculum Development*
- EDUC 440 *Supervised Teaching: Summer School*

**Senior Year**
- EDUC 420 *Curriculum Development*

**After Graduation**
- EDUC 440 *Supervised Teaching: Summer School*

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Internship Plan (Plan B)  
(For students beginning certification in their senior year, some Class III students, and MAT students)

**Before Graduation**
- EDUC 301/501 *Philosophical, Historical, and Social Foundations of Education* or EDUC 330/530 *The American High School;*
- EDUC 305/505 *Educational Psychology;*
- EDUC 410–416 *Relevant seminar(s) in teaching methods;* and
- EDUC 420 *Curriculum Development*

**After Academic Year**
- EDUC 440 *Supervised Teaching: Summer School;* and
- EDUC 540 *Internship* (paid internship in the fall in a local, accredited secondary school)

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Requirements for MAT

**Admission**—Applicants must have a bachelor's degree, scholarly ability, and an interest in teaching, and they must have taken the Graduate Record Examination (GRE) aptitude test. Education faculty review each application. A limited number of tuition waivers is available. See Admission to Graduate Study (Graduate Students section, pages 2–3). Admitted students must pass or be exempted from the state’s Texas Higher Education Assessment (THEA) exam prior to enrolling in any education courses.

**Degree Requirements**—For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4). The MAT is a nonthesis degree program for students who want to qualify for secondary school teaching following a liberal arts education. Most candidates entering the program have had no professional education courses. By completing the program, candidates fulfill all requirements for a Texas Standard Teaching Certificate for grades 8–12. To earn the MAT degree, students must complete, with grades of B- or higher, at least 33 semester hours (the need to remove deficiencies may require additional courses for certification) at the graduate level. Fifteen of the graduate credits must be at the 500 level. Requirements are as follows:

- Specified courses in secondary school educational theory, teaching strategies, educational practice, and evaluation
- Graduate or upper-level courses in the relevant teaching field(s) taken at Rice
- Supervised full-time teaching for one summer in the Rice Summer School for Grades 8–12, including design and implementation of courses, teaching, and evaluation
- Approval to begin an internship, based on a successful summer school teaching experience
• Supervised teaching internship for one semester in a cooperating accredited secondary school, including the accompanying seminar

The cooperating school districts pay a regular salary for internship teaching, which covers the small cost of graduate tuition.

**Requirements for Class III Certification**

A nondegree (Class III) plan leading to secondary teacher certification is available for those who have earned a BA but do not choose to pursue a graduate degree. Candidates complete all requirements for secondary teacher certification, including professional education courses and courses in their selected fields. Interested students should contact the Department of Education Certification.

**Higher Education Act Title II Reports**

The Higher Education Act (HEA) of the U.S. Congress requires each institution of higher education with a teacher preparation program enrolling students receiving federal assistance under this act to report annually to the state and the general public certain information. This information consists of the pass rate of program completers on assessments required by the state for teacher licensure or certification, the statewide pass rate on those assessments, and other basic information on the teacher preparation program.

Rice University’s teacher education program is accredited by the state of Texas. The first year pass rate for program completers on assessments required by the state for 2006–07 was 100%, compared with 97% for the overall state pass rate. The combined cumulative pass rate for program completers on assessments required by the state for 2005–07 was 100%, compared to 98% for the overall state pass rate. Twenty-nine students were enrolled in the program in 2007–08. The students spent an average of 40 hours per week in supervised student teaching with a student/faculty ratio of 2.09-to-1. Rice teacher education program graduates are regularly recruited by school districts in Houston and the surrounding areas because of their innovative ideas, content, expertise, leadership abilities, and dedication to the teaching profession.

See EDUC in the Courses of Instruction section.
The Department of Electrical and Computer Engineering (ECE) strives to provide high-quality degree programs that emphasize fundamental principles, respond to the changing demands and opportunities of new technology, challenge the exceptional abilities of Rice students, and prepare students for roles of leadership in their chosen careers. Undergraduate and graduate programs in ECE offer concentrations in areas that include system and control theory; communications; computer systems; signal processing; and photonics and nanoengineering. The latest information on the department’s faculty, research areas, and degree programs and requirements can be found on the ECE website: www.ece.rice.edu/.

Undergraduate Degree Programs

The department offers two undergraduate degrees, the bachelor of arts (BA) and the bachelor of science in electrical engineering (BSEE). The BA degree provides a basic foundation in electrical and computer engineering that the student can build upon to construct a custom program. Because of its flexibility and large number of free electives, the BA can be combined easily with courses
from other departments to create an interdisciplinary program. This may be particularly appropriate for students planning further study in law, business, or medicine.

The BSEE degree is the usual degree taken by those students planning a career of engineering practice. It is accredited by the Accreditation Board for Engineering and Technology (ABET), and can reduce the time required to become a licensed professional engineer. The program for the BSEE requires more hours and greater depth than the BA degree but still provides considerable flexibility.

Both degrees are organized around a core of required courses and a selection of elective courses from three specialization areas: computer engineering; photonics and nanoengineering; and systems: control, communication, and signal processing. Each student's program must contain a depth sequence in one area and courses from at least two areas to provide breadth. The specialization electives provide the flexibility to create a focus that crosses traditional areas. Because of the number of options, students should consult early with departmental advisors to plan a program that meets their needs.

**BSEE Degree Requirements**—See Graduation Requirements (Undergraduate Student section, pages 2–5) for general university requirements.

A BSEE program must have a total of at least 134 semester hours and include the following courses. A course can satisfy only one program requirement. Students who place out of required courses without transcript credit must substitute other approved courses in the same area. Current degree requirements and planning sheets can be found on the ECE Web site: www.ece.rice.edu.

**Mathematics and Science Courses**

- CHEM 121 General Chemistry
- ELEC 261 Electronic Materials and Quantum Devices
- ELEC 303 Random Signals
- MATH 101 Single Variable Calculus I
- MATH 102 Single Variable Calculus II
- MATH 212 Multivariable Calculus
- MATH 355 Linear Algebra or CAAM 335 Matrix Analysis
- PHYS 101 Mechanics
- PHYS 102 Electricity and Magnetism

Additional approved mathematics and science courses to bring the total to 32 hours.

**ECE Core Courses**

- ELEC 220 Fundamentals of Computer Engineering
- ELEC 241 Fundamentals of Electrical Engineering I
- ELEC 242 Fundamentals of Electrical Engineering II
- ELEC 301 Introduction to Signals
- ELEC 305 Introduction to Physical Electronics
- ELEC 326 Digital Logic Design

**Computation Course:** One from

- CAM 210 Introduction to Engineering Computation
- COMP 140 Computational Thinking

**Design Courses**

- ELEC 394 Professional Issues and Project Management for Electrical Engineers
- ELEC 494 Senior Design

**Design Laboratory:** One from

- ELEC 327 Implementation of Digital Systems
- ELEC 332 Electronic Systems: Principles and Practice
- ELEC 364 Photonic Measurements: Principles and Practice
**BSEE Specialization Area Courses**

Upper-level ECE courses are organized into three specialization areas: computer engineering; photonics and nanoengineering; and systems: control, communication, and signal processing. The computer engineering area provides a broad background in computer systems engineering, including computer architecture, digital hardware engineering, software engineering, and computer systems performance analysis. The systems area focuses on wireless communication systems, digital signal processing, image processing, and networking. The photonics and nanoengineering area encompasses studies of electronic materials, including nanomaterials, semiconductor and optoelectronic devices, lasers and their applications.

For the BSEE program, a minimum of six specialization area courses, including four or more in one area, and courses from at least two areas are required. Each course must be at least three semester hours. The department may add or delete courses from the areas, and graduate courses and equivalent courses from other departments may be used to satisfy area requirements with permission. Consult with department advisors and the ECE Web site: www.ece.rice.edu for the latest information.

**BSEE Design Requirement**

All BSEE degree candidates must complete a design sequence of courses taken during the junior and senior years. The goals of the changes to Senior design project introduced in fall 2009 are to provide laboratory and project management experience earlier in the sequence. This change allows for more time in the senior year to complete a significant design project. Also, more team projects with students across the fields of engineering using the new Oshman Engineering Design Kitchen are encouraged.

There are three related components to the BSEE Senior Design sequence: a design laboratory course, a seminar in professional issues and project management, and the actual design project. In the junior year, students can choose any one of the approved design laboratory courses, currently ELEC 327 Implementation of Digital Systems, ELEC 332 Electronic Systems Principles and Practice, or ELEC 364 Photonic Measurements: Principles and Practice. A required seminar in the spring of the junior year, ELEC 394 Professional Issues and Project Management for Electrical Engineers, provides instruction in professional engineering topics, and the nontechnical aspects of the design process, including ethics, design methodology, project planning, technical presentations, and documentation.

Both semesters of the senior year are devoted to the team design project using the resources of the Oshman Engineering Design Kitchen through the ELEC 494 Senior Design course. In the fall semester of the senior year, students finalize their project topics in coordination with the faculty and begin the design project. In the spring semester, students continue in the laboratory to complete their design project. Several presentations and design contests within the ECE department and the School of Engineering occur in the spring in which to showcase the projects.

**BSEE Unrestricted Electives**

Additional courses to provide the BSEE minimum requirement of at least 134 semester hours.

**BA Degree Requirements**—See Graduation Requirements (Undergraduate Students section, pages 2–5) for general university requirements. A BA
program must have a total of at least 121 semester hours and include the following courses. A course can satisfy only one program requirement, except for laboratory. Students who place out of required courses without transcript credit must substitute other approved courses in the same area. Current degree requirements and planning sheets may be found on the ECE Web site: www.ece.rice.edu.

**Mathematics and Science Courses**

- ELEC 261 Electronic Materials and Quantum Devices
- ELEC 303 Random Signals
- MATH 101 Single Variable Calculus I
- MATH 102 Single Variable Calculus II
- MATH 212 Multivariable Calculus
- MATH 355 Linear Algebra or CAAM 335 Matrix Analysis
- PHYS 101 Mechanics
- PHYS 102 Electricity and Magnetism
- ELEC 305 Introduction to Physical Electronics
- ELEC 326 Digital Logic Design

**Computation Course:** One from
- CAAM 210 Introduction to Engineering Computation
- COMP 140 Computational Thinking

**Laboratory:** One from
- ELEC 327 Implementation of Digital Systems
- ELEC 332 Electronic Systems: Principles and Practice
- ELEC 342 Electronic Circuits
- ELEC 364 Photonic Measurements: Principles and Practice
- ELEC 433 Architectures for Wireless Communications
- ELEC 434 Digital Signal Processing Laboratory

**BA Specialization Area Courses**

For the BA program, a minimum of four specialization area courses, including two or more in one area, and courses from at least two areas are required. Each course must be at least three semester hours. The department may add or delete courses from the areas, and graduate courses and equivalent courses from other departments may be used to satisfy area requirements with permission. Consult with department advisors and the ECE Web site for the latest area courses.

**BA Unrestricted Electives**

Additional courses to provide the BA minimum requirement of at least 121 semester hours.

**Graduate Degree Programs**

The ECE department offers two graduate degree programs. The master of electrical engineering (MEE) degree is a course-based program designed to increase a student’s mastery of advanced subjects; no thesis is required. The MEE prepares a student to succeed and advance rapidly in today’s competitive technical marketplace. A joint MBA/MEE degree is offered in conjunction with the Jesse H. Jones Graduate School of Management. The doctor of philosophy (PhD) program prepares students for a research career in academia or industry. The PhD program consists of formal courses and original research conducted under the guidance of a faculty advisor, leading to a dissertation. Students in the
PhD program complete a master of science (MS) degree as part of their program; the ECE department does not admit students for a terminal MS degree.

Information on admission to graduate programs is available from the ECE Graduate Committee and on the ECE Web site. See the section Information for Graduate Students (pages 3–4) for the general requirements of graduate degrees at Rice. Students must achieve at least a B (3.0) average in the courses counted toward a graduate degree. In addition, no course in which the student earned a grade lower than a C may count toward a graduate degree.

**MEE Degree Requirements**—Students must prepare a MEE degree plan and have it approved by their ECE faculty advisor. The plan must include at least 30 semester hours of courses, all at the 300 level or above. The program should include a major area of specialization (18 semester hours), a minor area (six semester hours), plus free electives. At least seven of the major and minor area courses must be at the 400 level or above, and at least four must be at the 500 level or above. ELEC 590 or ELEC 599 may not count as major area courses; no more than three semester hours can be transfer credit from another university, and at most one 1-hour seminar course may be included in the plan. A MEE degree planning form and current requirements may be found on the ECE website.

**PhD Degree Requirements**—Students are admitted to the PhD program only in the fall semester. ECE PhD students move through the program in stages, starting as first-year student, advancing to MS candidate, PhD-qualified student, and PhD candidate; each advancement requires the approval of the ECE graduate committee. Students entering with previous graduate work may follow a hybrid program developed in consultation with the faculty and the graduate committee. The first academic year concentrates on foundation coursework and developing a research area. Each student must successfully complete a project, ELEC 599, in his or her chosen area of research in lieu of an oral or written qualifying exam. In addition to enabling the faculty to evaluate the student’s research potential, the project encourages timely completion of the MS degree. The student must complete a master’s thesis and successfully defend it in an oral examination. Students who have already acquired a master’s degree elsewhere must also complete the ELEC 599 project, after which acceptance of their previous master’s degree will be determined by the Graduate Committee.

A candidate for the PhD degree must demonstrate independent, original research in electrical and computer engineering. After successfully presenting a PhD research proposal and completion of all coursework, a student is eligible for PhD candidacy. The student then engages in full-time research, culminating in the completion and public defense of the PhD dissertation. Details of the PhD program requirements, the phases of study, and a timetable may be found on the ECE Web site.

See ELEC in the Courses of Instruction section for course descriptions.
ENERGY AND WATER SUSTAINABILITY

THE GEORGE R. BROWN SCHOOL OF ENGINEERING

DIRECTOR
Jim Blackburn

UNDERGRADUATE ADVISORS
Pedro Alvarez
Jim Blackburn

STEERING COMMITTEE
Phil Bedient
Walter Chapman
Dan Cohan
Ken Cox
Leonardo Dueñas-Osorio

Peter Hartley
George Hirasaki
Qilin Li
Carrie Masiello
Ka-Yiu San
Ed Segner
Robert Stein
William Symes
Mason Tomson
Rick Wilson
Kyriacos Zygourakis

DEGREES OFFERED: NONE

The Civil and Environmental Engineering Department in collaboration with several other Rice University departments offers undergraduate students the opportunity to select a minor in energy and water sustainability (EWSU). Sustainable development is a societal goal that challenges traditional ways of thinking and requires alternative approaches and solutions to balance environmental, economic, and social interests. Carbon management strategies and renewable resources will be key elements of energy policy for the coming decades. Similarly, the long-term viability of existing water use and human settlement patterns must be reconsidered given the effect of climate change in freshwater availability, as well as increasing competing demands for this limited resource. More generally, the dedication of materials, energy, and ecological resources will become more important in economic decision-making, while more and more members of society will demand equity in decision-making processes.

Students choosing this minor will gain knowledge of both the science and policy issues associated with the evaluation of sustainable energy and water strategies that will form a cornerstone of 21st century social systems. Students completing this minor will be better prepared for a global society that is attempting to understand and address the challenge of meeting basic human needs today and in the future while maintaining a functional natural system and social order.

REQUIREMENTS FOR MINORING IN EWSU

Students must complete seven courses, comprising three required core courses, a design practicum and three elective courses that focus on energy, water, or sustainability. To promote educational breadth, no more than two of these electives should be used to meet a student’s major requirements.

REQUIRED COURSES

• CEVE 202/ENGI 202 Sustainable Design
• CEVE 307/ENST 307/ESCI307 Energy and the Environment
• CEVE 322/ENGI 303 Engineering Economics or ECON 480/ENST 480 Environmental Economics
**Elective Courses**

Students must choose three electives, with no more than two drawn from any one of three different defined areas of specialization. No more than two of these electives can be used also to fulfill major requirements, and at least one elective course must be taken from a different school than the one hosting the student’s major. A complete list of the approved elective courses may be found at www.ewsu.rice.edu.

**Design Practicum**

Students are required to enroll in a 1-credit (integrative) independent study for one semester, typically fall of the senior year. Students in engineering and architecture who must take a senior design course will typically fulfill this requirement by preparing a report that describes the incorporation of sustainability concepts into their design effort, in consultation with the senior (capstone) design course instructor. Students not engaged in a suitable design project will either consult with an extant design group or pursue a project related to their own area of study in consultation with the advisors for this interdisciplinary minor.
ENGLISH

THE SCHOOL OF HUMANITIES

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Jill “Thad” Logan
Lisa Slappey

PROFESSORS EMERITI
Lucille P. Fultz
Walter Whitfield Isle
David Lee Minter

Courses

Detailed information on current semester course offerings can be found at www.english.rice.edu. Please note that undergraduate level courses range numerically from ENGL 100 through ENGL 499, and graduate courses begin with ENGL 500.

Degrees Offered: BA, PhD

The undergraduate program offers a broad spectrum of courses, including British and American literature, creative writing, women and gender studies, cultural studies, literary theory, media studies, and film. Beyond a critical appreciation of literature, students also will sharpen their written communication and analytical skills. The graduate program in English offers concentrations in all fields of British and American literature and literary theory.

Degree Requirements for BA in English

For general university requirements, see Graduation Requirements (Undergraduate Student section, pages 2–5). Students majoring in English must complete 36 semester hours in English with at least 24 hours in courses at the 300 level or above. A double major requires 30 hours in English, with at least 18 hours in the upper-level courses. HUMA 101 and 102 may be counted toward the English major. All English majors must take the following:

• ENGL 200 Seminar in Literature and Literary Analysis
• ENGL 300 Practices in Literary Study
• Nine hours at the 300 level or above in periods before 1900 A.D.; six of the nine hours must be in periods before 1800 A.D.; but only one may be a Shakespearean course
• Three hours at the 200 level or above in a course that focuses on noncanonical traditions, such as courses in women, African American, Chicano/a, Asian American, ethnic, global, and diasporic writers

The department recommends that all English majors take courses in British and American history and, if they plan to do graduate work, at least six hours of upper-level courses in a foreign language.

Degree Requirements for PhD in English

For general university requirements, see Graduate Degrees (Graduate Student section, pages 3–4). As part of their training, graduate students participate in both the teaching and research activities of the department. Upon entering, students will be assigned a Program Advisory Committee (PAC), consisting of two or three faculty members. In consultation with their PAC, students will design their own individualized program structured by the minimal requirements listed below. For more detailed information, please ask for a copy of the department’s program outline.

MA Program—The English department does not have an MA program, but offers the MA degree to those PhD students who have achieved candidacy and are in the process of completing the doctorate, and qualified PhD students who leave the program before completing the doctorate. To receive an MA students must:

• Satisfactorily complete at least 30 hours of graduate work in English at Rice University. Courses must be those that count towards the PhD in English. These include courses numbered in the 500s and 600s in the English department excluding 510, 601/602, 603/604; up to two approved graduate or equivalent courses taken in other departments; and up to two approved courses in the English department numbered 400 and above. Students must satisfactorily complete ENGL 600 and distribution requirements for the PhD (see below).
• Satisfactorily complete two teaching assistantships (ENGL 601/602 and two research assistantships). These do not count toward the 30-hour requirement.

PhD Program—To gain admission to PhD candidacy, students must satisfy the first seven of the following requirements, and they must receive approval for their dissertation prospectus from the department’s graduate committee. To earn a PhD in English, candidates also must complete the last two requirements. Students must:

1. Satisfactorily complete at least 33 hours of course work plus ENGL 510, exclusive of the thesis. Courses can include: graduate courses in the English department numbered 500 to 600, excluding 510, 601/602, 603/604; up to two approved undergraduate courses in the English department; and up to two approved courses in another department.
2. Satisfactorily complete the following two required courses: ENGL 600 Professional Methods and ENGL 605 Third-Year Writing Workshop. These count toward the 33-hour requirement.
3. Satisfactorily complete the distribution requirement, which consists of two approved courses on literature before 1800 and two after 1800. These count toward the 33-hour requirement.
4. Satisfactorily complete the teaching requirement by serving twice as a teaching assistant, completing ENGL 510/511 Pedagogy, and teaching a lower-level course designed in conjunction with the instructor of ENGL 510. ENGL 510 does not count toward the 33-hour requirement.

5. Pass a six-hour written preliminary examination focusing on two lists of books: one representing the full range of a literary period as defined by the student and his or her preliminary committee, the other representing a second literary period, a single author, a genre traced over a period of time more comprehensive than that covered by the first list, or a particular theoretical or critical approach studied with reference to its own history and traditions, as well as to the historical field of the first exam.

6. Complete a dissertation prospectus that proposes a topic and an approach, offers a context to the topic in terms of work already done, offers an outline of chapters or sections, and includes a substantial bibliography.

7. Complete a dissertation that demonstrates a capacity for independent and original work of high quality.


Financial Support—Within the limits of available funds, qualified students may receive graduate scholarships or fellowships for up to five years. To qualify for this continuing financial aid, students must be approved for candidacy for the PhD by the beginning of their ninth semester at Rice.

See ENGL in the Courses of Instruction section.
Rice University introduced the professional master’s degree in environmental analysis and decision making in fall 2002. This degree is geared to teach students rigorous methods that are needed by industrial and governmental organizations to deal with environmental issues. As an interdisciplinary program, it aims to give students the ability to predict environmental problems, not just solve them. It emphasizes core quantitative topics such as statistics, remote sensing, data analysis, and modeling. In addition, it teaches laboratory and computer skills and allows students to focus their education by taking electives in relevant fields.

The environmental analysis and decision making degree is part of the professional master’s program at Rice housed in the Wiess School of Natural Sciences. These master’s degrees are designed for students seeking to gain further scientific core expertise coupled with enhanced management and communications skills. These degrees instill a level of scholastic proficiency that exceeds that of the bachelor’s level, and they create the cross-functional aptitudes needed in modern industry. Skills acquired in this program will allow students to move more easily into management careers in consulting or research and development, design, and marketing of new science-based products.

Degree Requirements for MS in Environmental Analysis and Decision Making

In addition to the core science courses, students are required to complete a three- to six-month internship and take a set of cohort courses focusing on business and communications. At the conclusion of the internship, students must present a summary of their internship project in both oral and written form as part of the professional master’s seminar.

Part-time students who already work in their area of study may fulfill the internship requirements by working on an approved project with their current employer. For general university requirements for Graduate Study, see Graduate Students section, pages 2–3, and also see Professional Degrees, pages 4–5.

Admission

Admission to graduate study in environmental analysis and decision making is open to qualified students holding a bachelor’s degree in a related field that includes general biology, chemistry, calculus, differential equations, and linear algebra. Department faculty evaluate the previous academic record and credentials of each applicant individually.
Science core courses

CEVE 401 Introduction to Environmental Chemistry (with lab) (F)
ESCI 450 Remote Sensing (S)
STAT 685 Quantitative Environmental Decision Making (S)

Plus 3 courses from the following:

Group A

STAT 305 Introduction to Statistics for Biosciences (F, S)
STAT 385 Methods for Data Analysis (S)
STAT 405 Statistical Computing (F)
STAT 410 Introduction to Statistical Computing and Linear Models (F)
STAT 621 Computational Finance II: Time Series Analysis (S)
STAT 622 Bayesian Data Analysis (S)

Group B

CEVE 307 Energy and the Environment (S)
CEVE 412 Hydrology and Watershed Analysis (S)
CEVE 504 Atmospheric Particulate Matter (S)
CEVE 511 Atmospheric Processes (F)
CEVE 534 Fate and Transport of Contaminants in the Environment (F)
CEVE 536 Environmental Biotechnology and Bioremediation (S)
CEVE 550 Environmental Organic Chemistry (S)

Cohort Courses

NSCI 501 Professional Master’s Seminar (F, S) [required for two semesters]
NSCI 511 Science Policy and Ethics (S)
NSCI 512 Professional Master’s Project (F, S)
NSCI 610 Management in Science and Engineering (F)

Internship

An internship is conducted under the guidance of a host company, government agency, or national laboratory. A summary of the internship project is required in both oral and written form as part of the professional master’s project.

Elective Courses

Note: Each of these electives is not offered every year, and some courses may have prerequisites or require instructor permission.

Students will choose four elective courses, three of which should be from one of the focus areas. At least one elective should be from the management and policy focus area. Recommended courses include, but are not limited to, the following:

Sustainable Development

BIOS 322 Global Ecosystem Dynamics (S)
BIOS 325 Ecology (S)
CEVE 307 Energy and the Environment (F)
CEVE 313 Uncertainty and Risk in Urban Infrastructures (F)
CEVE 406 Introduction to Environmental Law (S)
CEVE 409 Sustainable Development (S)
CEVE 434 Fate and Transport of Contaminants in the Environment (F)
CEVE 511 Atmospheric Processes (F)
CEVE 592 Reliability of Complex Urban Systems (S)
ECON 438 Business, Law and Economics (S)
ECON 480 Environmental Economics (S)
MGMT 661 International Business Law (S)

Management and Policy

CEVE 322 Engineering Economics and Management (S)
CEVE 406 Introduction to Environmental Law (S)
ECON 480 Environmental Economics for Engineers (S)
MGMT 721 General Business Law (S)
MGMT 661 International Business Law (S)
MGMT 674 Production and Operations Management (F)
# Environmental Studies

The Environmental Studies Program offers several interdisciplinary courses for students interested in broadening their understanding of environmental issues. These courses often are team-taught by faculty from various areas of study.

Students wishing to major in an environmental program have three options: environmental science (see below), environmental engineering sciences (see civil and environmental engineering), or environmental policy (see policy studies). In addition, chemical and biomolecular engineering majors may create a focus area in environmental engineering (see chemical and biomolecular engineering) and earth science majors may follow an environmental earth science track (see earth science).

Students seeking advice regarding environmental programs may contact Andre Droxler (andre@rice.edu), or the coordinator of the Center for the Study of Environment and Society (cses@rice.edu).

**Degree Requirements for BA in Environmental Science**

Environmental science is an interdisciplinary program that addresses environmental issues in the context of what we know about earth, ecology, and society. In addition to its science core, the major also seeks to provide students with some appreciation of social, cultural, and policy dimensions of environmental issues, as well as exposure to the technologies of pollution control. The double major is designed to accommodate:

- Students wishing to obtain a solid preparation for later graduate study in environmental science or other careers as environmental professionals (e.g., environmental economics or environmental law)
- Students pursuing other careers (e.g., historians, lawyers, mechanical engineers, chemists) who hope to contribute to solutions to one of the major global issues of the 21st century.

Students may take environmental science only as a second major. The 67-semester-hour (minimum) double major may be taken in conjunction with any stand-alone major offered in any school of the university.

**Directors**
- Andre Droxler

**Associate Director**
- Richard Johnson

**Professors**
- Walter Chapman
- Arthur A. Few
- Stephen Klineberg
- Neal Lane
- Elizabeth Long
- Peter Mieszkowski
- Ronald J. Parry
- Evan Siemann
- Rick K. Wilson
- Gordon G. Wittenberg
- Kyriacos Zygourakis

**Professors Emeriti**
- Paul Harcombe

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**Associate Professor**
- Melissa J. Marschall

**Assistant Professors**
- Daniel Cohan
- Brandon Dugan
- Caroline Masiello
- Jennifer Rudgers

**Lecturers**
- James Blackburn
- William Dawson
- Winifred Hamilton
- Karoline Mortensen
- Donald Ostdiek
- Lisa Slappey

**Professor Emeriti**
- Paul Harcombe

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- James Blackburn
- William Dawson
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- Karoline Mortensen
- Donald Ostdiek
- Lisa Slappey
The key components of the double major include:

- Foundation course work in mathematics, physics, chemistry, and biology.
- A set of five undergraduate core courses, required of all double majors, that acquaint undergraduates with a range of environmental problems encountered by scientists, engineers, managers, and policy makers. Core courses stress the components of the global environment and their interactions.
- 24 semester hours of environmental electives from four categories: 1) social sciences and economics, 2) humanities and architecture, 3) natural sciences, and 4) engineering. Students may petition to have electives, in addition to those currently listed, apply toward the double major.

Major tracking forms are available in the Center for the Study of Environment and Society (CSES) office for declared environmental science majors.

Specific course requirements for a double major (BA) in environmental science include:

**General Prerequisites**

- BIOS 201 Introductory Biology
- BIOS 202 Introductory Biology
- CHEM 121 or 151 General Chemistry with Laboratory
- CHEM 122 or 152 General Chemistry with Laboratory
- MATH 101 or 111 Single Variable Calculus I
- MATH 102 or 112 Single Variable Calculus II
- PHYS 101 or 125 or 111 Mechanics
- PHYS 102 or 126 or 112 Electricity and Magnetism

**Core Courses**

- BIOS 325 Ecology
- ESCI 321 Earth System Evolution and Cycles
- **One of the following two courses**
  - CEVE 411 Air Resource Management
  - PHYS 203 Atmosphere, Weather, and Climate
- **Two of the following three courses**
  - CEVE 401 Introduction to Environmental Chemistry
  - CEVE 412 Hydrology and Watershed Analysis
  - ESCI 454/CEVE 453 Geographic Information Science

**Advanced Electives (24 hours; at least six semester hours from each category)**

**Category A—Social Sciences and Economics**

- CEVE 306 Global Environmental Law and Sustainable Development
- CEVE 406/ENST 406 Environmental Law
- ECON 480/ENST 480 Environmental Economics
- ENST 302/SOCI 304 Environmental Issues: Rice into the Future
- ENST 312 Environmental Battles in the 21st Century: Houston as a Microcosm
- POLI 317 The Congress
- POLI 331 Environmental Politics and Policy
- POLI 332 Urban Politics
- POLI 334 American Political Parties
- SOCI 313 Demography
- SOCI 367/ENST 367 Environmental Sociology

**Category B—Humanities and Architecture**

- ARCH 313/ENST 313 Sustainable Architecture
- ENGL 367 American Ecofeminism
- ENGL 368/ENST 368 Literature and the Environment
- ENST 301 Introduction to the Environment: Environmental History and Literature

**Category C—Natural Sciences**

- BIOS 316 Lab Module in Ecology
- BIOS 321 Animal Behavior
- BIOS 323/ENST 323 Conservation Biology
- BIOS 334 Evolution
- BIOS 336 Plant Diversity
- CHEM 211 Organic Chemistry
Environmental Studies

CHEM 395 Advanced Module in Green Chemistry
ESCI 323 Earth Structure and Deformation
ESCI 340/BIOS 340/ENST 340 Global Biogeochemical Cycles
ESCI 421 Paleoceanography
ESCI 430 Trace Element and Isotope Geochemistry for Earth and Environmental Sciences
ESCI 442 Exploration Geophysics
ESCI 450/CEVE 450 Remote Sensing
ESCI 454/CEVE 453 Geographic Information Science
ESCI 468/ANTH 468 Climate Variability and Human Response

Category D—Engineering
CEVE 201/HEAL 201 Urban and Environmental Systems
CEVE 203 Principles of Environmental Engineering
CEVE 315 Sustainable Technologies for Developing Countries
CEVE 401 Chemistry for Environmental Engineering and Science
CEVE 411 Atmospheric Processes
CEVE 412 Hydrology and Watershed Analysis
CEVE 434 Fate and Transport of Contaminants in the Environment
CEVE 451 Analysis of Environmental Data
CEVE 470 Basic Soil Mechanics
CEVE 490 Special Study and Research
ENST 307/CEVE 307/ESCI 307 Energy and the Environment
ENST 281/CHBE 281 Engineering Sustainable Communities
STAT 300 Model Building
STAT 305 Introduction to Statistics for the Biosciences
STAT 310/ECON 382 Probability and Statistics
PSYC 339 Statistical Methods—Psychology

See ENST in the Courses of Instruction section.
Financial Computation and Modeling

The George R. Brown School of Engineering and the School of Social Sciences

Director
Katherine B. Ensor

Steering Committee and Undergraduate Advisors
Mahmoud El-Gamal
James R. Thompson

Degrees Offered: None

The Departments of Statistics and Economics collaborate to offer Rice undergraduate students a minor in financial computation and modeling (FCAM). The FCAM minor consists of six courses focusing on the strategies and computational technologies used in the financial industry. The minor is designed for those students with strong computational skills and an interest in finance. Many students pursuing the FCAM minor enter careers in the financial industry, either immediately after completion of their undergraduate studies or after graduate studies. Students completing the FCAM minor will understand the complexities of financial markets and their role in and impact on world economies. For the last two decades, this sector of our economy has significantly increased its reliance on quantitative probability based methods in assessing risk and implementing financial strategies; strategies on which our economy depends.

The basic tools component of the FCAM curriculum will equip students with the economic (ECON 211 or ECON 370), probability (STAT 310) and statistical tools (ECON 400 or STAT 410) necessary to pursue the advanced analytical courses. In the advanced courses, students will be exposed to state-of-the-art models and methodologies based on long-standing assumptions about the behavior of financial markets. They also will be exposed to alternative views of market behavior and investment strategies. The goal is to educate students to question basic assumptions as well as utilize and understand technologies based on these important assumptions. In the financial industry, a large suite of solutions are implemented and continually enhanced. A goal of the FCAM program is to train leaders in this industry who not only will understand the financial technologies but also will understand the role, impact, and potential pitfalls of these technologies.

Requirements for Minoring in FCAM

Students must take three courses each from the two following groups:

Basic Tools (Choose three)
ECON 211 Principles of Economics, or
ECON 370 Microeconomic Theory
STAT 310/ECON 382 Probability and Statistics
ECON 400/STAT 400 Econometrics, or
STAT 410 Introduction to Regression and Statistical Computing

Financial Computation and Modeling (Choose three)
ECON 355 Financial Markets, or
ECON 448 Corporate Finance
STAT 421 Computational Finance II: Time Series Analysis
ECON 449 Basics of Financial Engineering
STAT 486 Computational Finance I: Market Models
French Studies

The School of Humanities

Chair
José Aranda

Professors
Bernard Aresu
Deborah Nelson-Campbell
Jean-Joseph Goux

Professor Emerita
Madeleine Alcover

Associate Professors
Deborah A. Harter
Philip R. Wood

Assistant Professors
Julie Fette

Degrees Offered: BA, MA, PhD

Courses in this department hone language skills in French while placing a diverse, generalized knowledge of French literature within a broad spectrum of cultural, historical, philosophical, and theoretical concerns. Students also are urged to take courses in fields closely related to French studies, including European and English history, literature, and philosophy. The department encourages students to spend time studying in a francophone country, and to that end the French studies department and Office of Academic Advising will help students select an appropriate program.

Degree Requirements for BA in French Studies

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). Students majoring in French studies must complete at least 30 semester hours in upper-level courses (at the 300 or 400 level). A double major or an area major must complete 24 hours in upper-level courses.

Required Courses

FREN 311 Major Literary Works and Artifacts of Pre-Revolutionary France
FREN 312 Major Literary Works and Artifacts of Post-Revolutionary France: The Romantic Legacy
FREN 336 Writing Workshop

Electives

Seven additional courses (for single majors)—at least three courses at the 400 level
Five additional courses (for double majors)—at least two courses at the 400 level

As many as two French courses taught in English may count toward a major in French studies. Students who have taken 300- and 400-level French courses (except those taught in English) cannot enroll simultaneously or afterward in 200-level French courses for credit. More than half of the courses for the major must be taken at Rice University. The department normally requires that the basic courses for the major (FREN 311, 312, and 336) be taken at Rice. It is strongly suggested that these courses be taken as early as possible.

Students with diplomas from French-speaking institutions must consult with the department before enrolling in courses, and all majors and prospective majors must have their programs of study approved by an undergraduate advisor. Students wishing to complete the honors program in French studies also should consult one of the advisors.

Campus Activities—To acquaint students with French language and culture, the department sponsors a weekly French table that meets at lunch in a
college. The Club Chouette also organizes outings to French movies, sponsors guest lectures, and, in cooperation with the department, helps to produce a play during the spring semester. Students who maintain at least a B average in two or more advanced French courses and have a GPA of at least 3.0, are invited to join the Theta chapter of the honorary Pi Delta Phi.

**Travel Abroad**—The department encourages majors to spend time living and studying in a francophone country. The Alliance Française of Houston offers a summer scholarship of $3,000 each year to a qualified sophomore or junior for six weeks of study in France. The Clyde Ferguson Bull Traveling Fellowship is awarded each year to an undergraduate to spend the junior year studying in France with a program approved by the department. Candidates must have taken at least one 300-level course in the department and have a GPA of at least 3.0. Information about study abroad is available from the department faculty and in the Office of Academic Advising.

**Degree Requirements for MA and PhD in French Studies**

Admission to graduate study in French, granted each year to a limited number of qualified students, requires a distinguished undergraduate record in the study of French literature or a related field and a capacity for independent work. All candidates should have a near-native command of the French language. For general university requirements, see Graduate Degrees (Graduate Student section, pages 3–4).

**MA Program**—In most cases, students take two years to complete work for the MA degree in French studies. While graduate students normally take 500-level courses, as many as two courses at the 400 level may count toward fulfillment of the following course requirements. MA candidates must:

- Complete with satisfactory standing 27 semester hours (in addition to BA course work) of upper-level courses, plus six hours of independent study in the preparation of three advanced research papers to be defended before their MA committee. The selection of the paper topics must receive preliminary approval from the examination committee.
- Perform satisfactorily on a reading examination in 1 department-approved language other than French or English.
- Perform satisfactorily on preliminary written and oral examinations conducted in French on works specified on the department reading list.

**PhD Program**—Candidates normally take 500-level courses, but students entering with a BA may count toward their PhD degree as many as three courses at the 400 level; those entering with an MA may count two such courses. Graduate student enrollment in a course listed only at the 400 level, however, is subject to the instructor's approval. Candidates for the PhD degree must meet the following criteria, ensuring that they complete the language requirement and their preliminary exams one year before they submit a dissertation:

- In a program approved by the department, complete with high standing at least 57 semester hours of course work, plus 36 thesis hours (for those already holding an MA degree, the requirement is 39 hours of course work, plus 36 thesis hours). Six of these units may be fulfilled with a 600-level independent study course.
- Satisfactorily complete one course at the 300 level or above in a language other than French or English. With the permission of the graduate committee, this requirement also may be met through satisfactory performance on a
written language examination or by such other means as the graduate committee may direct.

- Perform satisfactorily on preliminary written and oral examinations based on readings comprising both required and individually selected texts, including readings in French literature from all major periods and readings in philosophy and theory; history, cultural studies, and film; and postcolonial and gender studies. The oral exam can be taken only after successful completion of the written exam.

- Complete a dissertation, approved by the department, that represents an original contribution to the field of French studies.

- Perform satisfactorily on a final oral examination on the dissertation.

See FREN in the Courses of Instruction section.
DEGREES OFFERED: BA IN GERMAN STUDIES

The department offers courses in both English and German. Courses in English have readings in translation, and all the course work is done in English. They offer exceptional opportunities to work with the experts on numerous topics in German Studies. The freshman seminars offered by the department are included among the English language courses. For students who have completed intermediate German or the equivalent, the department offers courses starting at the 300-level with readings, discussion, and course work in the German language. These courses include surveys of German culture and literature, introduction to German language media, and German through cultural texts, as well as more advanced topics. Studies in film, cultural theory, and gender complement traditional studies of German literature, philosophy, history, and art. Advanced courses continue to reinforce and expand German language skills.

The department encourages and facilitates study abroad through advising and scholarship support.

For our current course offerings see our website: german.rice.edu. We also post up-to-date information in the department on the third floor of Rayzor Hall.

DEGREE REQUIREMENTS FOR BA IN GERMAN STUDIES

For general university requirements, see Graduation Requirements (Undergraduate Student section, pages 2–5). Students who have German as their only major must complete at least 30 semester hours at or above the 300 level, as follows:

- GERM 304 German through Cultural Texts
- GERM 305 Enlightenment and Romanticism, 1750–1850
- GERM 306 Realism to Modernity, 1850–present
- Four German 300-level courses (up to two may be from the department’s offerings in English)
- Three German 400-level courses

Students who have German as a double major must complete at least 24 semester hours at or above the 300 level, as follows:

- GERM 304 German through Cultural Texts
- GERM 305 Enlightenment and Romanticism, 1750–1850
• GERM 306 Realism to Modernity, 1850–present
• Three GERM 300-level courses (one may be from the department’s offerings in English)
• Two German 400-level courses

**Note:** For single majors, a maximum of four transfer courses can count toward the major. For double majors, a maximum of three transfer courses can count toward the major. Request for exceptions to these rules will be considered by the undergraduate advisor.

**Honors**—The department offers an honors program for majors excelling in their studies. Honors work consists of readings and research leading to a substantial honors thesis under the supervision of a department faculty member (GERM 493 in fall, GERM 494 in spring). Outstanding students are presented annually with the Max Freund Prize.

**See GERM in the Courses of Instruction section.**
GLOBAL HEALTH TECHNOLOGIES


DIRECTOR AND ADVISOR
Rebecca Richards-Kortum

STEERING COMMITTEE
George N. Bennett
Jennifer West
Kyriacos Zygourakis

UNDERGRADUATE ADVISORS
Elias K. Bongmba
Maria Oden
Kristen Ostherr

MINOR ADVISOR
Yvette Mirabal

DEGREES OFFERED: NONE

Rice 360°: Institute for Global Health Technologies collaborates with a number of departments to offer Rice undergraduate students a minor in global health technologies (GLHT) through the Beyond Traditional Borders (BTB) initiative—a unique, multidisciplinary program to educate and train students to reach beyond traditional disciplinary and geographic boundaries to understand, address, and solve global health disparities. With complementary contributions from the humanities, social science, policy, bioscience, and engineering programs at Rice, the GLHT minor prepares students to integrate diverse perspectives as they develop solutions to the complex problems of global health, using the formal approach of the engineering design process.

Advances in biotechnology and bioengineering are transforming how disease is detected and treated, and have led to significant advances in health over the last 50 years. Developing countries, however, have largely missed out on the gains in health enjoyed by the rest of the world, and the HIV/AIDS pandemic has greatly increased the complexity of health challenges faced by the world’s poorest regions. With the GLHT minor, BTB aims to create future leaders who can develop effective solutions to significant world health challenges. Many students pursuing the GLHT minor—having been trained to develop and implement appropriate biotechnology and bioengineering solutions that integrate scientific, engineering, health, policy, and economic data perspectives—enter careers in medicine, public health, public policy, and international development.

Students begin the GLHT minor sequence (five core courses and two elective courses) in a multidisciplinary gateway course, choosing between one of two tracks based on their major course of study for teaching focused on their area of expertise. Having fostered a command of specialized knowledge relevant to the development of technologies appropriate for resource-constrained settings, students conclude the GLHT minor with a common capstone course that enables them to benefit from one another’s proficiencies as they work in interdisciplinary teams to address a global health challenge.

• In the Engineering and Science track, undergraduates take a series of courses leading to a year-long capstone design experience. Beginning with GLHT 362 Bioengineering for Global Health Environments, students are provided an
overview of scientific, economic, and policy issues associated with biotechnology and bioengineering advances to address global health needs. A seminar-style design course, GLHT 260 *Appropriate Design for Global Health*, introduces students to the range of challenges faced by the least developed countries in the pursuit of healthy populations. Guest speakers from relevant departments at Rice and from BTB collaborating institutions make the course accessible to students of all disciplines. Next, GLHT 361 *Metabolic Engineering for Global Health Environments* provides students with expertise in biotechnology and bioengineering applied to international health problems. Finally, GLHT 461/462 *Global Health Design Challenges* requires multidisciplinary teams of students, mentored by interdisciplinary faculty teams, to work together in a two–semester course to develop a solution to an international health challenge.

Likewise, **Humanities, Social Science, and Policy track** undergraduates completing the GLHT minor take a series of courses, also leading to the capstone design experience GLHT 461/462 *Global Health Design Challenges*. Alongside science and engineering students, they begin with the course GLHT 301 *Bioengineering and World Health*, the nontechnical version of GLHT 362, followed by GLHT 260 *Appropriate Design for Global Health*. The track is rounded out by GLHT 122 *Fundamental Concepts in Biology*.

**Requirements for Minoring in GLHT**

Students must complete five core courses in the science and engineering track or the humanities, social science, and policy track, depending upon their major course of study. In addition to the core course sequence, students must complete a minimum of two elective courses.

**Science and Engineering Track Core Courses**

- GLHT 362 *Bioengineering for Global Health Environments*
- GLHT 260 *Appropriate Design for Global Health*
- GLHT 361 *Metabolic Engineering for Global Health Environments*
- GLHT 461/462 *Global Health Design Challenges*

**Humanities, Social Science, and Policy Track Core Courses**

- GLHT 301 *Bioengineering and World Health*
- GLHT 260 *Appropriate Design for Global Health*
- GLHT 122 *Fundamental Concepts in Biology*
- GLHT 461/462 *Global Health Design Challenges*

All core courses will be offered each year: GLHT 122, GLHT 301, GLHT 362, and GLHT 461 in the fall and GLHT 260, GLHT 122, GLHT 361, and GLHT 462 in the spring. The sequence indicated is the recommended sequence, and pre-requisites may apply, although some flexibility is possible. Prior to enrollment in the capstone course GLHT 461/462, students must successfully complete all other GLHT minor core course requirements per their track, although electives may be taken concurrently. There is no requirement to initiate the GLHT minor in the freshman year. It can be initiated as late as the junior year (beginning in the fall semester). It will be possible for students to receive credit for GLHT minor courses that also fulfill a requirement within their major. Students can petition the GLHT minor advisory committee to accommodate a change in their major course of study that impacts their minor track selection.
Elective Courses

For a list of approved elective courses, covering a wide range of relevant topics, please visit www.beyondtraditionalborders.rice.edu and/or speak with the minor advisors.

Admission

All GLHT minor courses are open to all Rice students, including those not pursuing the GLHT minor, with the exception of the capstone course GLHT 461/462 which is restricted to students completing the GLHT minor. For GLHT 260, students are required to submit a short application (available at www.beyondtraditionalborders.rice.edu) to gain instructor permission to register for the course. Preferential admission to GLHT 260 will be given to students who indicate they are seeking to complete the GLHT minor course of studies.
Hispanic Studies

The School of Humanities

Chair
José Aranda

Professors
Beatriz González-Stephan

Associate Professors
Luis Duno-Gottberg

Robert Lane Kauffmann
J. Bernardo Pérez

Degrees Offered: BA and MA in Hispanic Studies

The department offers courses on the literatures and cultures of the Spanish-speaking nations of the world and on Spanish linguistics. The department stresses linguistic competence, interdisciplinary study, and a transnational perspective on Spanish and Spanish American literature and culture. In addition to courses on the novel, poetry, and the essay, the department also offers the opportunity to study film, art, cultural theory, translation, and gender. Freshman seminars are conducted in English and stress written and oral communication. Qualified students may undertake independent work.

Degree Requirements for BA in Hispanic Studies

For general university requirements, see Graduation Requirements (Undergraduate Student section, pages 2–5). Both single and double majors must take at least one course in Hispanic linguistics, one course in Spanish literature and/or culture, and one course in Latin American literature and/or culture. No more than two courses taught in English may count toward the major in Hispanic studies. More than half of the courses for the major must be taken at Rice University.

Single Majors—Students majoring in Hispanic studies must complete at least 30 semester hours in upper-level courses (SPAN 330 and above) as follows:

• One course between SPAN 330 and SPAN 359
• Four courses between SPAN 360 and SPAN 399
• Four courses at the 400 level
• One elective course

Double Majors—Students double majoring in Hispanic Studies must complete at least 24 semester hours in upper-level courses (SPAN 330 and above) as follows:

• One course between SPAN 330 and SPAN 359
• Three courses between SPAN 360 and SPAN 399
• Three courses at the 400 level
• One elective course

For a list of recommended elective courses, please see the department coordinator.

Honors—Every year, the department presents the Cervantes Award for Outstanding Seniors to its top students. The department also offers to outstanding majors the opportunity to do honors work during their final year of study. Honors work consists of an independent research project leading to a thesis and is undertaken under the direction of a departmental faculty member. Students
wishing to do honors work must submit a thesis proposal to be approved by
the department before the end of the semester prior to the semester in which
they will register for the honors thesis (SPAN 495).

Degree Requirements for MA in Hispanic Studies
The MA program is currently suspended. No applications are being accepted
at this time.

For general university requirements, see Graduate Degrees (Graduate Student
section, pages 3–4). For the MA degree, candidates must:

• Complete with high standing an approved program that normally includes
  27 semester hours in advanced courses, plus nine hours of thesis work
• Pass a reading examination in one foreign language (other than Spanish)
  that has been approved by the department
• Perform satisfactorily on a written comprehensive examination in Spanish,
  which tests students’ competence in Hispanic literature and linguistics
• Take SPAN 507 Teaching College Spanish
• Complete an acceptable thesis
• Perform satisfactorily on a final oral examination on the thesis

See SPAN in the Courses of Instruction section.
The School of Humanities

Degrees Offered: BA, MA, PhD

The undergraduate program offers courses in ancient and medieval history; modern European history; U.S. history; African, Asian, and Caribbean history. Faculty interests range from ancient Greek to modern British and German; from areas in American history that include Colonial America, the Old and New South, the Civil War, and intellectual history; and from general global history to specific areas such as East and South Asian history, Caribbean history, Middle Eastern history, and the history of science and technology. The department encourages its majors to acquaint themselves with other humanistic disciplines, such as literature, fine arts, and philosophy; the contributions of political science, sociology, economics, and anthropology also are vital to historical studies. The graduate program, which trains a limited number of carefully selected students, offers studies in U.S., Europe, Atlantic, and African, and a graduate certificate in the study of women, gender, and sexuality.

Degree Requirements for BA in History

For general university requirements, see Graduation Requirements (Undergraduate Student section, pages 2–5). Students majoring in history must complete a minimum of 30 semester hours (10 courses) in history. No less than 18 hours (six courses) should be taken at Rice. No more than six hours (two courses) may be satisfied by advanced placement (AP) credit. Transfer credit, foreign or domestic, when combined with AP, cannot count for more than 12 hours (four courses). At least 18 hours (six courses) are required on the 300 or 400 level. Two courses must be chosen from a departmental list of

Chair
Martin J. Wiener

Professors
Tani E. Barlow
John B. Boles
Douglas G. Brinkley
Peter C. Caldwell
Michael Maas
Ussama Makdisi
Allen J. Matusow
Alida C. Metcalf
Paula A. Sanders
Richard J. Smith
Martin J. Wiener
John H. Zammito

Professors Emeriti
Katherine Fischer Drew
Ira D. Gruber
Thomas L. Haskell
Harold Hyman

Associate Professors
Alexander X. Byrd
Stephanie M. H. Camp
Edward L. Cox
Carol E. Quillen
Kerry R. Ward
Lora Wildenthal

Assistant Professors
Lisa A. Balabanlilar
G. Daniel Cohen
Moramay Lopez-Alonso
Kathryn de Luna
Rebecca A. Goetz
W. Caleb McDaniel
Cyrus C. M. Mody

Lecturer
Timothy J. Fitzgerald

Gale Stokes
Albert Van Helden

Katherine Fischer Drew
Ira D. Gruber
Thomas L. Haskell
Harold Hyman

Professor Emeriti

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Lecturer
Timothy J. Fitzgerald

Gale Stokes
Albert Van Helden

Katherine Fischer Drew
Ira D. Gruber
Thomas L. Haskell
Harold Hyman

Chairs
seminars devoted mainly to writing and discussion. In addition, majors are expected to distribute their 10 courses over four fields (AP credit may not be used for these):

- Premodern—one course minimum
- Europe—one course minimum
- United States—one course minimum
- Africa, Asia, Latin America, Middle East—one course minimum

Some foreign language proficiency is desirable and the department highly recommends that students contemplating graduate work in history study at least one foreign language in some depth.

**Transfer Credit**—The Department of History grants transfer credit on a case-by-case basis to enrolled undergraduates (the Office of the Registrar determines the credit hours). Courses taken at another institution must be the equivalent in required reading, writing, and testing of a Rice history course. It does not have to have an equivalent in the Rice history offerings. For the current procedures to request transfer credit, see the department homepage history.rice.edu. Rice students planning to study at a foreign university must also obtain approval from the Office of International Programs.

**Honors Program**—Qualified undergraduates may enroll for six semester hours of directed honors research and writing, completing an honors thesis in their senior year (these six hours are in addition to the 30 hours required for the major). Application to the program is required. For current procedures, see the department homepage, history.rice.edu. Students must complete both semesters of HIST 403 and 404 to receive credit; the grade for the final project applies to the full six hours. Limited financial assistance is available to conduct related research during the summer between the junior and senior year for all students accepted into the Honors Program.

**Degree Requirements for MA and PhD in History**

The Rice University graduate program in history is primarily a PhD program. Students who have a BA in history (or its equivalent) from an acceptable institution are eligible to apply to the PhD program. Although many successful candidates to the PhD program have an MA or other advanced degree, advanced study is not a requirement for admission. Graduate study is offered in U.S., European, intellectual, and other areas of history. Further information is available on request from the department. For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4).

The department awards graduate tuition waivers and fellowship stipends, within the limits of available funds, to qualified PhD candidates with demonstrated ability. University funding is not available for master's program study only. All graduate students in the history department are expected to participate in the professional activities of the department as part of their training. These include, but are not limited to, assisting with the *Journal of Southern History* or the *Papers of Jefferson Davis* and serving as research assistants or teaching assistants for department members. Insofar as possible, these assignments are kept consistent with the interests of the students.

**MA Program**—The department gives priority to applicants for the PhD. Completion of the MA degree usually takes two years; no more than three years may elapse between graduate admission and the completion of the degree unless the department graduate committee approves an extension. MA
degrees are awarded in two ways: (1) completion of one year of course work (24 credit hours) and a thesis written and defended in an oral examination during the second year; and (2) completion of two years of course work (48 credit hours), normally including at least two seminar research papers.

**PhD Program**—Doctoral candidates must prepare themselves in three fields of history: two in their major area of concentration, whether European, U.S., or other history, and a third in an area outside of that concentration (e.g., if the major area is European history, the third field must be in U.S. or other non-European history, and if the major area is U.S. history, the third field must be in European or other non-U.S. history, and so on). Students who wish to pursue a third field in an area outside the department should petition the graduate committee by the end of their second semester.

The requirements for completing the degree will be administered as flexibly as possible within the bounds of the general university regulations. These requirements state that the PhD degrees will be awarded after successful completion of at least 90 semester hours of advanced study and an original investigation reported in an approved thesis. Passing the qualifying exam and receiving approval of a dissertation prospectus allows the student to apply for formal admission to candidacy for the PhD degree.

For the PhD, candidates must:

- Prepare themselves thoroughly in three examination fields.
- Take eight graduate seminars, including Introduction to Doctoral Studies.
- Pass an examination in their principal language of research or, if the principal language of research is English, in one other language.
- Perform satisfactorily on written and oral examinations. For students entering with a BA, those examinations normally will be taken before the beginning of the fifth semester and no later than the beginning of the sixth semester.
- Complete a dissertation presenting the results of original research.
- Defend the thesis in a public oral examination.

*See HIST in the Courses of Instruction section.*
The mission of the Humanities Research Center (HRC) is to foster scholarly research and intellectual community in the humanities, broadly understood, to facilitate scholarly work between the School of Humanities and other areas of Rice University, and to lead institutional change by partnering with other foundations, centers, research institutions, and universities. The HRC strives to bring a dynamic element to research and teaching by developing “intellectual liquidity” within and between humanities and the sciences, information and communications technologies, and the professions.

Each year, in addition to its orientation toward faculty development, the HRC administers the Andrew W. Mellon seminars. The two-semester seminars promote research at the highest level between faculty and doctoral students. Starting with a core of well-developed research by the seminar leader, the seminars invite students from across the humanities to become fellow researchers and collaborators. The seminars support innovative graduate-level training and research in the humanities and social sciences.

See HURC in the Courses of Instruction Section.
JEWISH STUDIES
THE SCHOOL OF HUMANITIES

DIRECTOR AND ADVISOR
Matthias Henze

STEERING COMMITTEE
Gregory Kaplan
Paula Sanders
Klaus Weissenberger

UNDERGRADUATE ADVISORS
Matthias Henze
Gregory Kaplan
Diane Wolfthal

DEGREES OFFERED: NONE

Jewish Studies is an interdisciplinary field that encompasses the texts, history, languages, philosophy, and culture of Jews and Judaism as they have endured over three millennia and throughout the world. Spread across the humanities and social sciences, Jewish Studies broadly examines topics including the Hebrew Bible and its history of interpretation, the nature of Jewish identities in religious and secular contexts, aesthetic representations of otherness, the relations of history and memory, religion and art, philosophical discussions of God, and others. Investigating the foundations and development of these various topics as well as their interaction with and influence on other traditions provides an opportunity to explore the continuities and diversity of Jewish life and thought over three millennia.

Undergraduate students will benefit from a course of studying Judaism because of the interdisciplinary status of JWST which crosses boundaries between departments and even schools; the substantive contribution to human knowledge which a people and culture that has remarkably proceeded from one of humanity’s oldest traditions into an entirely contemporary one; and the intersection between academic study and engagement with local institutions (such as the Holocaust Museum Houston) and public discussions of some urgency.

REQUIREMENTS FOR THE INTERDISCIPLINARY MINOR IN JWST

JWST minor courses are generally open to all students at Rice from all backgrounds. Our classes meet student interests in Jewish experience and its importance for history, literature, art, politics, law, and philosophy. The following requirements apply to the JWST minor.

• Students must complete at least six courses (18 credit hours).
• Students must take at least one of the following core courses: HART 377 Jews and Art; RELI 208 or 324 Secular Judaism; or RELI 209 Introduction to Judaism.
• Students must take at least one course in each of the following categories: (1) language, and literature; (2) history and culture; and (3) thought, philosophy, and ethics. If a course is listed in more than one category,
students can elect for which category the course counts, yet each course can only apply to one category. For a list of approved elective courses, covering a wide range of relevant topics, please review www.jewishstudies.rice.edu and/or speak with the minor advisors.

• No more than two Hebrew (HEBR) and two Religious Studies (RELI) courses will count towards the JWST minor.
• At least three courses must be at the 300-level or higher.
• No more than three courses can apply from study abroad or transfer credits.

For a complete listing of all courses offered each semester in JWST, as well as for more information about Jewish Studies at Rice in general, please visit www.jewishstudies.rice.edu.
KINESIOLOGY

THE SCHOOL OF HUMANITIES

**Chair**
Nicholas K. Iammarino

**Professor**
Bruce Etnyre

**Professors Emeriti**
Eva J. Lee
Hally B. W. Poindexter
Dale W. Spence

**Associate Professor**
James G. Disch

**Professors in the Practice**
Clark Haptonstall

**Degree Offered: BA**

The department was one of the first of its kind in the nation to institute an academic program structure that allows students to concentrate their efforts on a specific subdiscipline. Academic programs include sports medicine, sport management, and health science. Detailed requirements of each program can be obtained on the departmental Web page at kinesiology.rice.edu.

**Degree Requirements for the BA in Kinesiology**

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). A minimum of 120 semester hours is required for a bachelor of arts degree in kinesiology. Because of the interdisciplinary and diverse nature of the field of kinesiology, each student is required to specify an academic program concentration within the major.

**Sports Medicine Program**

*Advisor: Bruce Etnyre*

Students who choose the sports medicine program typically continue their education at the graduate level or plan on attending medical school or other medically related professional schools, such as physical therapy. Graduates also may be directly employed in medical and corporate settings, which include both preventative and rehabilitative programs. Graduates who choose not to seek postbaccalaureate education generally are encouraged to obtain certification for exercise testing, physical fitness evaluation, or exercise prescription through the American College of Sports Medicine at www.acsm.org.

The sports medicine curriculum intends to provide a strong natural science foundation and interface this foundation with application to the human body. Prerequisite courses in chemistry and physics, elective courses in biology and biochemistry, as well as an array of required and elective courses offered within the department provide this foundation. The sports medicine program is the only academic specialization on campus that provides detailed exposure to human anatomy and human physiology. In addition, students receive a solid foundation in nutrition, biomechanics, sports psychology, motor learning, measurement and statistics, exercise physiology, and sports medicine. Practical
experience is afforded through several academic labs. Other elective courses include epidemiology, case studies in human performance, motor control, advanced exercise physiology and preventative medicine, research methods, and muscle physiology and plasticity. During advising sessions, students are encouraged to select from these electives according to their respective career goals. Students in the sports medicine program are expected to develop a strong scientific knowledge base as well as adept critical reading, writing, and oral communication skills.

Qualified students of the sports medicine program will be encouraged to participate in an independent study. This independent study allows integral involvement in basic or applied research directed by a faculty advisor. The application (proposal) process for independent studies is outlined on our Web page at kinesiology.rice.edu/programs.cfm. Qualified students also are encouraged to apply for any highly competitive internship. The internships generally provide students with an opportunity to experience the application of preventative and rehabilitative sports medicine concepts and practice in a healthcare or corporate setting.

**SPORT MANAGEMENT PROGRAM**

*Director: Clark Haptonstall*

Sport Management is an interdisciplinary field of study that draws from a wide range of academic disciplines, including business, management, law and communication. Each discipline can be applied to the business enterprise of amateur and professional sport, corporate America or other management related professions. While Sport Management is an interdisciplinary major, many of its faculty are housed in the Department of Kinesiology. For a full description about Sport Management, see Departments & Programs section.

**HEALTH SCIENCES PROGRAM**

*Advisor: Nicholas K. Iammarino*

The goal of the health science program is to provide students with a fundamental background in health promotion and disease prevention. This background will enable them to understand the complexities of maintaining an optimal level of personal health while also considering the role that health promotion plays in society and the mechanisms that affect community health. The health science program is viewed as an excellent option for undergraduate students who are preparing to enter graduate school in health education, health promotion, or public health, as well as other health-related graduate or professional programs such as medicine or dentistry.

Students must complete a total of 45 semester hours in addition to the general university requirements (Undergraduate Student section, pages 2–5). Seven courses constitute a total of 21 required hours. These required courses include an introductory course designed to acquaint students with the fundamental concepts of health and models of health promotion (Concepts of Health Science), understanding and assessing community health needs (Principles of Community Health), methods of understanding the disease process (Epidemiology), a course that introduces statistics and measurement (Measurement and Statistics), a professional preparation course that introduces students to the profession (Foundations of Health Promotion/Health Education), theories and models commonly used in health promotion research and practice (Theories and Models of Health Behavior), and an application course in which students plan
a health promotion program (Planning and Evaluation in Health Promotion/Education).

The remaining 24 semester hours are drawn from elective courses that are both within the Department of Kinesiology and, at present, more than 20 courses from other academic departments. In keeping with the university's interest in an interdisciplinary approach to undergraduate education, this allows students to choose health-related courses within the natural sciences, social sciences, and humanities divisions.

See HEAL and KINE in the Courses of Instruction section.
Leadership Rice exists to encourage and equip Rice students to obtain leadership roles at Rice and beyond. We provide leadership development opportunities to undergraduates from every discipline, with additional opportunities for those students displaying the highest capacity and strongest ambition for leadership.

We seek to accomplish our mission through a blend of curricular and co-curricular activities, including academic classes, enhanced internships, and grants for student initiatives. The Summer Mentorship Experience is a competitive summer internship program through which students are paired with both an organization and a mentor in the organization who oversees the student’s learning and leadership development. Envision Grants provide up to $2,500 in support of student projects that promote service, foster leadership development, demonstrate ingenuity, and plan for sustainability. Implementing a project funded by an Envision Grant is an excellent way for students interested in applying for prestigious scholarships and fellowships to demonstrate that they possess the initiative and ability to translate ideas to action.

Leadership Rice classes prepare students for the challenges and opportunities leaders face today. Classes are open to students of all years and majors and may be taken independently of each other.

Courses offered:

- LEAD 101 Leadership Theory and Practice
- LEAD 150 Leadership in Professional Context
- LEAD 301/HUMA 312 Historical and Intellectual Foundations of Leadership
- LEAD 313 Entrepreneurial Leadership
- LEAD 320/HUMA 311 Rhetoric of Leadership
- LEAD/COMM 321 Leadership Communication
- LEAD/COMM 325 Applied Leadership—Power, Influence, and Persuasion
- LEAD/SOC 375 Social Dynamics of Leadership—Elites and Society

For more information, visit www.leadership.rice.edu.

See LEAD in the Courses of Instruction section.
LIBERAL STUDIES

THE SUSANNE M. GLASSCOCK SCHOOL OF CONTINUING STUDIES

DEAN
Mary B. McIntire

DIRECTOR
John W. Freeman

Please refer to the program Web site at www.mls.rice.edu for program information and academic policies.

DEGREE OFFERED: MASTER OF LIBERAL STUDIES

The part-time Master of Liberal Studies (MLS) is an interdisciplinary program that provides adults in the Houston area a unique opportunity to challenge themselves intellectually. Designed for those who love to learn new ideas and discuss them with others, the MLS program allows students to explore timeless and timely human questions within the humanities, social sciences, and sciences. Though exploring the liberal arts at a highly integrated level is not always possible in a career-focused undergraduate curriculum, it is both possible and well suited to a master’s level program. Courses in the MLS program are taught by distinguished Rice faculty and invited visiting faculty who appreciate the opportunity to teach adults.

The program is designed for working adults and does not follow the traditional university schedule of fall and spring semesters. Classes meet one evening per week for 10–11 weeks, with one or two Saturday morning classes. Sessions are offered in the fall, winter, and spring.

Fall classes begin in September and end before Thanksgiving; winter classes begin in January and end in March; spring courses begin in April and end in early June. No classes are held in July or August.

DEGREE REQUIREMENTS

For general university requirements for graduate study, see Graduate Students section, pages 2–3. The MLS program consists of 33 credit hours, which include three core courses, seven electives, and a capstone course. A student may take only one course in his or her entering session. The core courses—one in humanities, one in social sciences, and one in natural sciences—are designed to acquaint first-year students with the contrasting perspectives and methodological approaches that define academic inquiry in the three broad fields. Core courses must be completed before electives may be taken. Electives may focus on just one “track” (science, social science, or humanities) or may be chosen more broadly. All courses will require research papers; some may require tests or oral presentations.

The capstone course is designed to help students integrate their knowledge through writing an extended paper or completing a project to be presented to MLS faculty and students. A thesis is not part of the degree program. The program can be completed in approximately four years if one class is completed every session. Students are allowed to take up to seven years to complete the degree.
ADMISSION
Admission to graduate study is open to qualified students holding a bachelor’s degree (or equivalent) from an accredited university or college. A minimum GPA of 3.0 from the applicant’s undergraduate work is expected, though the admissions committee also gives consideration to applicants’ postgraduate experience and recent accomplishments.

COURSES
Historically, Rice University has recognized that becoming physically educated is integral to one’s overall education. Since the university was founded in 1912, the Lifetime Physical Activity Program has worked to create a multi-faceted learning experience that promotes the physical, social, and emotional benefits of physical activity. It is the mission of the Lifetime Physical Activity Program to teach both theoretical and practical components of a variety of exercise/performance activities such that they will bring enjoyment and demonstrate the importance of maintaining health and wellness throughout the course of a lifetime.

Specifically, the goals of the Lifetime Physical Activity Program are:

- To encourage a lifetime of fitness through the teaching of mechanical, physiological, and nutritional principles.
- To teach other pertinent knowledge such as historical and cultural foundations, rules, and strategy.
- To create an environment that fosters a sense of emotional satisfaction, physical accomplishment, and social interaction for its participants.
- To provide students with high-quality instruction specific to the course material so that they may learn skills that will improve the length and quality of their lives.
- To expose Rice University students to activities that are not necessarily mainstream in United States culture.

To satisfy the LPAP requirement, students must successfully complete two different non-credit LPAP classes. Students with disabilities may make special arrangements to satisfy this requirement. While LPAP courses may not be repeated to meet the graduation requirement, students can repeat a course for credit, but should expect to complete additional work. However, students will not receive more than four hours of credit from the successful completion of LPAP classes.

Lifetime physical activity classes are strongly recommended for all first-year students, including transfers who have not taken equivalent courses elsewhere. Because LPAP courses are participation based and must be supervised by an instructor, students are not allowed to add them after the second full week of classes each semester.
The Lifetime Physical Activity Program offers a variety of sport/exercise/performance activities. In the 40-plus sections that are offered each semester, many have a multi-sport focus (e.g., volleyball/basketball), allowing students to experience three or four activities during one year. A student may select an LPAP section that meets his/her scheduling needs and that offers activities that satisfy his/her interests. Some of the current activities offered include racquet sports (tennis, racquetball, badminton), fitness activities (aerobics, personal fitness, weight training), aquatic activities, dance (Latin, ballroom, modern, ballet, country western, Middle Eastern, classical Indian), martial arts, team sports (flag football, basketball, volleyball, soccer, softball), and other activities such as fencing, self-defense for women, golf, yoga, and nutrition.

See LPAP in the Courses of Instruction section.
The School of Humanities

Degrees Offered: BA, MA, PHD

BA in Linguistics

The department offers both a major program in linguistics and a Certificate of Teaching English to Speakers of Other Languages, which may be earned with or without a Linguistics major. For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). In addition, students must satisfy the distribution requirements and complete no fewer than 60 semester hours for a total of at least 120 semester hours.

Because human language is a multifaceted object of study, linguistics is, by its nature, an interdisciplinary field. The undergraduate major provides both an in-depth grounding in the field as well as cross-disciplinary breadth. Students beginning a linguistics major should take LING 200, which is a prerequisite for many upper-level courses in the department. All majors are required to take at least nine courses (27 semester hours) in linguistics at the 300 level or above, including five core courses as specified below (or otherwise listed in a particular concentration).

Core Courses
LING 300 Linguistic Analysis
LING 301 Phonetics
LING 304 Introduction to Syntax or LING 311 Phonology
LING 305 Historical Linguistics, LING 315 Introduction to Semantics, or LING 416 Language Universals and Typology
LING 415 Sociolinguistics or LING 490 Discourse

In addition, competency in one language other than English is required. This requirement may be satisfied by two courses in a foreign language at the 200 level or above or equivalent or at the 100 level or above for non-European languages. No more than one independent study course may be counted toward the major requirements.

Students may elect either a general linguistics major or one of five areas of concentration. Options in the list of core courses that are not used as core courses can count as electives for the general major or for concentrations.

The general linguistics major requires, in addition to five core courses and the language requirement, at least four advanced linguistics electives (300 level or above).
Majors who plan to pursue graduate training in linguistics are recommended to choose one of the areas of concentration below. These students also are urged to apply for admission to the Honors Program by the end of their junior year. The requirements for the various concentrations include additional courses as follows:

- **Language Concentration.** In addition to the basic language competency required of all majors, the language concentration requires an advanced level competency in a different language. This can be satisfied by two language courses taught in a language other than English at the 300 level or above, or equivalent. In addition to the five core courses, four advanced electives (300-level or above) also are required, which should be chosen in consultation with the linguistics major advisor. Courses in the structure or the history of the languages studied are especially appropriate.

- **Cognitive Science Concentration.** This concentration requires, in addition to the five core courses, four advanced linguistics courses focused on the cognitive aspects of human language, selected from LING 306 *Language, Thought, and Mind*, LING 309 *Psychology of Language*, and LING 315 *Introduction to Semantics*, LING 411 *Neurolinguistics*, and LING 405 *Discourse*; and two courses from cognitively-related disciplines (psychology, computer science, anthropology, philosophy) as approved by the linguistics major advisor.

- **Language, Culture, and Society Concentration.** For an in-depth grounding in a particular language and culture, this concentration requires two language courses at the 300 level or above. The language may be the same as that used to satisfy the basic language competency. Besides the five core courses, the student must take four courses selected from LING 313 *Language and Culture*, LING 406 *Cognitive Studies*, LING 415 *Sociolinguistics*, LING 419 *Bilingualism*, LING 421 *Sociolinguistics of Spanish*, LING 405 *Discourse*; and two courses in sociocultural studies outside the department approved by the linguistics major advisor. Examples of appropriate courses are ANTH 353 *Cultures of India*, ANTH 361 *Latin American Topics*, PSYC 202 *Introduction to Social Psychology*, HIST 250 *Traditional Chinese Culture*, and SOCI 386 *African Americans in Society*.

- **Second Language Acquisition Concentration.** Two language courses at the 300 level or above are required; the language may be the same as that used to satisfy the basic language competency. In addition to the five linguistics core courses, four additional courses are required, as follows: LING 340 *Theory and Methods of Teaching ESL*; one structure of language course (LING 394 *Structure of English* or other language equivalent such as LING 318 *Structure of French*, LING 370 *Structure of Japanese*, etc., as approved by the linguistics major advisor); and any two of the following: LING 309 *Psychology of Language*, LING 313 *Language and Culture*, LING 415 *Sociolinguistics*, LING 418 *The Acquisition of L2 Spanish*, LING 419 *Bilingualism*, LING 420 *Cognition and L2 Acquisition*, LING 422 *The Development of Tense and Aspect in Second Language Learning*, and LING 490 *Discourse*.

- **Speech Sciences Concentration.** This concentration is designed for those who would like to pursue career paths in fields related to speech, language, and hearing. Medical-oriented fields under this rubric include speech pathology and audiology; speech technology fields include speech recognition and speech synthesis. The five core courses required for this concentration are LING 300 *Linguistic Analysis*, LING 301 *Phonetics*, LING 311 *Phonology*, LING 415 *Sociolinguistics*, and LING 405 *Discourse*. 
In addition to the core courses, students must take the two-unit seminar LING 396 *Professions in the Speech Sciences* and seven other upper-level courses as outlined below:

For students planning careers in medically-oriented fields, the seven additional courses must include LING 212 *Speech and Hearing Science*, LING 309 *Psychology of Language*, and LING 411 *Neurolinguistics*. Additionally, four courses are chosen as follows:

From linguistics one of the following: LING 428 *Laboratory Phonology*, LING 405 *Discourse*, LING 555 *Seminar in Phonetics*, or LING 409 *Special Topics*, when on a topic deemed appropriate by the speech sciences advisor.

From courses outside the department, three of the following:

EDUC 310 *Introduction to Special Education*
PSYC 321 *Developmental Psychology*
PSYC 339 *Statistical Methods*
PSYC 351 *Psychology of Perception*
BIOS 122 *Introduction to Biology*
KINE 301 *Human Physiology*
NEUR 511 *Integrative Neuroscience*

For students planning careers in speech technology, the seven additional courses will include four of the following: LING 304 *Introduction to Syntax*, LING 309 *Psychology of Language*, LING 428 *Laboratory Phonology*, LING 490 *Discourse*, LING 555 *Seminar in Phonetics*, or LING 409 *Special Topics*, when on a topic deemed appropriate by the speech sciences advisor. The remaining three requirements should be chosen from the following courses from outside the department:

ELEC 301 *Introduction to Signals*
ELEC 434 *Digital Signal Processing Lab*
MECH 373 *Acoustics*
COMP 200 *Elements of Computer Science* or
COMP 210 *Principles of Computing*

Further courses in the medical and the language technology areas will enhance students’ preparation for these respective fields. Students contemplating careers in the speech sciences should consult with the speech sciences advisor and faculty in other relevant areas concerning course choice and career planning.

**Honors Program.** The Linguistics Honors Program provides selected undergraduate majors with the opportunity to conduct supervised research within their area of specialization in the major. Majors planning to pursue graduate training in linguistics or a related field are strongly encouraged to apply, as well as others who wish to add the experience of an intensive, individualized research project to their undergraduate education.

Application to the Honors Program should be made in person to the undergraduate major advisor before the end of the student’s junior year. In support of the application, the student should prepare a brief description of the proposed project signed by the faculty member who is to supervise the work (the project supervisor). Acceptance into the program is by agreement of the linguistics faculty. On acceptance, the student will enroll in LING 482 *Honors Project*, with the supervising faculty member named as instructor.
The Honors Program framework is designed to facilitate the development of a mentoring relationship between student and faculty member. Students are thus expected to meet regularly with their project supervisor regarding their progress; the supervisor is responsible for providing research guidance and general support.

With the appropriate completion of major requirements and the honors project or thesis, the student will graduate with departmental honors.

**PhD in Linguistics**

The doctoral linguistics program at Rice emphasizes the study of language use and functional/cognitive approaches to linguistic theory. Rice faculty engage in a broad range of research specializations, all of which play an important role for in-depth graduate training. These interrelated areas include cognitive linguistics, language change, sociolinguistics, discourse analysis, language documentation and description, phonetics, laboratory phonology, and typology. Other faculty research interests include phonological theory, acoustic phonetics, speech sciences and technology, syntax, language revitalization, neurolinguistics, forensic linguistics, applied linguistics, and second language acquisition. The program only admits students planning to study for the PhD degree full time. Undergraduate preparation ideally should include language study and course work in linguistics or disciplines related to linguistics, such as anthropology, applied linguistics, speech and hearing sciences, psychology, sociology, or studies of particular languages, although an advanced degree is not required. A master's degree may be earned during progress to the PhD degree. Admission to the program is competitive. Students admitted to the program are generally offered financial support in the form of tuition scholarships and/or stipends for living expenses.

During the first year of residence, each entering student works closely with the graduate advisor to choose a plan of study congruent with the demands of the program and the student's interests. Emphasis throughout the program is on a close working relationship with faculty. Students should select areas of specialization that fit well with faculty research interests and activities.

Students will, in general, take five years to progress through the degree program. With no prior linguistics background, course work in the first three years will include:

- one problem-solving course in linguistic analysis (LING 500) to be taken in the first year of study
- two courses in the area of phonetics/phonology (LING 501 and 511)
- two courses in the area of syntactic/semantic analysis (LING 504 and LING 515 or LING 413)
- the two-course sequence in field methods (LING 407 and LING 408) to be taken normally in the second year of study
- two seminars in the department to be taken in the second and/or third year of study
- five additional elective courses, including two courses in other subfields of linguistics, for those in the five-year program; two additional electives for those in the four-year program

Prior preparation in linguistics will be assessed with regard to its equivalence to particular Rice courses. Graduate students are required to register for at least 12 hours credit per semester before advancing to candidacy. Students are expected to serve as teaching assistants for one course per year during the time they are receiving departmental support; such service is included in the normal course load.
Before advancing to candidacy, students must prepare two in-depth research papers. Each paper must represent a different area in the field of linguistics (as determined by the linguistics faculty); a separate committee of three members of the faculty reads and referees each paper. The committees are chosen by the student and approved by the student's faculty mentor. Students should submit their first paper to their committee by the end of their second year; they should submit their second by the end of their third year. In addition, one of the papers must be presented in the departmental colloquium, and it is expected that students submit their work for presentation at relevant professional meetings and publish their work in venues such as conference proceedings and/or journals when possible.

Finally, students must fulfill the departmental language requirement of competency in at least two languages other than English. See the department Web page for specific details.

In the course of the first three years in the program, the student should work toward establishing a close working relationship with various members of the faculty such that multiple faculty members are familiar with the student's work. During the first year, the graduate advisor serves as the student's advisor, but after the first year, the student selects a faculty mentor to provide more personalized advising in addition to the general advice of the graduate advisor. After the student's second paper is accepted, a dissertation advisor is selected and a doctoral committee is formed, by mutual agreement of the student and the anticipated committee members. During the fourth year, students present to their committee members a third research paper, called the dissertation prospectus, consisting of a substantial dissertation proposal and a comprehensive bibliography. This prospectus may take the form of a grant proposal to an external funding agency, particularly in the case of proposed fieldwork. Upon completion of the prospectus, students will submit to an oral qualifying exam to be administered by the dissertation committee. The exam will consist of two parts, a general exam demonstrating the student's knowledge of the field and a dissertation prospectus hearing. Upon completion of this qualifying examination, the student will advance to candidacy.

Following advancement to candidacy, the student works full time toward the completion of the dissertation. The student is expected to consult regularly with the committee members during the data collection and writing process. After a complete draft of the dissertation is submitted, the student defends the dissertation publicly. When the final version of the dissertation is accepted by the doctoral committee and filed with the university and all other requirements are certified as fulfilled, the degree is then granted.

For more in-depth information about the linguistics graduate program and faculty, consult the departmental Web page at www.linguistics.rice.edu.

See LING in the Courses of Instruction section.
Managerial Studies

The School of Social Sciences

Program Director
Richard J. Stoll

Degree Offered: BA
The major in managerial studies is an interdepartmental, nonprofessional program designed to provide undergraduates with an understanding of the environment in which businesses and other organizations exist today and of some of the tools employed by management in the commitment of its financial and human resources. All students taking the managerial studies major also must complete at least one of the established departmental or interdepartmental majors, other than an area major. Managerial studies is not the equivalent of an undergraduate business major at other universities.

Degree Requirements for BA in Managerial Studies
For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). For the BA degree, students majoring in managerial studies must complete the following 10 core courses in addition to satisfying all the requirements for their second departmental or interdepartmental major:

ACCO 305 Introduction to Accounting
ECON 211 Principles of Economics I (microeconomics)
ECON 448 Corporation Finance or ENGI 303 Engineering Economics and Management (for engineering majors only)
*MANA 404 Management Communications in a Consulting Simulation
PSYC 101 Introduction to Psychology
PSYC 231 Industrial and Organizational Psychology

**STAT 280 Elementary Applied Statistics
***STAT 385 Methods for Data Analysis and System Optimization

Two courses from the following:
ACCO 406 Management Accounting
ECON 348/POLI 348 Organizational Design
ECON 355 Financial Markets and Institutions
ECON 370 Microeconomics Theory
ECON 421 International Finance

ECON 435 Industrial Organization
ECON 437 Energy Economics
ECON 438 Business, Law, and Economics
ECON 439 Torts, Property, and Contracts
MECH 456 Legal Themes in Engineering Practice
POLI 335 Political Environment of Business
POLI 338 Policy Analysis

STAT 411 Advanced Statistical Methods

*MANA 404 is a capstone course that may not be taken until eight of the 10 other required courses in the major have been completed.

** Psychology and sociology majors may satisfy this requirement with PSYC 339/STAT 339 or SOCI 398, respectively. Students with a calculus background should take STAT 305, STAT 310/ECON 382, or STAT 331/ELEC 331.

*** or CAAM 378, ECON/STAT 400, STAT 410, 421, 486.
Honors Program—To apply for admission to the honors program, students must have completed eight of the regular managerial studies courses and have a B+ (3.33) average in those courses. All applications must be approved by the director of Managerial Studies.

The Honors Program consists of taking two additional courses from:

MANA 497/498 Independent Research
ECON 440 Advanced Game Theory
ECON 445 Managerial Economics
ECON 449 Basics of Financial Engineering

STAT 486 Methods in Computational Finance
I: Market Models
STAT 421 Methods in Computational Finance
II: Time Series

MANA 497/498 are offered in collaboration with faculty in the Jesse H. Jones Graduate School of Management. Admission to these courses must be approved by a participating faculty member. A list of participating faculty and their research interests is available from the director of Managerial Studies.

For more information, students should consult the program director in 202 Baker Hall.

See MANA in the Courses of Instruction section.
Mathematics

The Wiess School of Natural Sciences

Chair
Brendan Hassett

Associate Professors
Zhiyong Gao
Shelly Harvey

Professors
Michael Boshernitzan
Tim D. Cochran
David Damanik
Robin Forman
Robert M. Hardt
John Hempel
Frank Jones
Stephen W. Semmes
William A. Veech
Michael Wolf

Assistant Professors
Alexander Bufetov
Danijela Damjanovic

Instructors
Sergey Belov
Evan Bullock
Prudence Heck
Sevak Mkrtchyan
Danielle O’Donnol
Elena Pavelescu
Leobardo Rosales
Anthony Várilly-Alvarado

Professors Emeriti
F. Reese Harvey
John C. Polking
Raymond S. Wells

Visiting Professor
Raymond Johnson

Degrees Offered: BA, MA, PhD

Mathematics lies at the foundation of many disciplines in the sciences, engineering fields, and the social sciences, and this influence is growing as these subjects become increasingly quantitative. Recognizing this important role in the wide variety of directions available to our degree recipients, the program in mathematics provides undergraduates with a spectrum of choices. These range from nontheoretical treatments of calculus and courses in combinatorics, elementary number theory, and projective geometry to a broad variety of sophisticated mathematics, including real and complex analysis, differential geometry, abstract algebra, algebraic and geometric topology, algebraic geometry, dynamics, and partial differential equations.

Faculty research interests range from differential geometry, ergodic theory, group representations, partial differential equations, and probability to real analysis, mathematical physics, complex variables, algebraic geometry, combinatorics, geometric topology, algebraic topology, and dynamics.

Degree Requirements for BA in Mathematics

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). Students majoring in mathematics may choose between the regular math major and the double major. Regular math majors must complete:

- MATH 101 and 102 Single Variable Calculus I and II
- MATH 211 Ordinary Differential Equations and Linear Algebra and MATH 212 Multivariable Calculus or MATH 221 and 222 Honors Calculus III and IV
- At least 24 semester hours (eight courses) in departmental courses at the 300 level or above (in many instances, the math department will waive the 100- and 200-level courses for a math major)
The requirements for the double major are the same except that students may substitute approved mathematics-related courses for up to nine of the 24 hours required at the 300 level or above.

Students receive advanced placement credit for MATH 101 by achieving a score of four or five on the AP AB-level test and for MATH 101 and 102 by achieving a score of four or five on the BC-level test. Students who have had calculus but have not taken the AP test may petition the department for a waiver of the calculus requirements. Entering students should enroll in the most advanced course commensurate with their background; a vice is available from the mathematics faculty during Orientation Week and at other times.

**Degree Requirements for MA and PhD in Mathematics**

Admission to graduate study in mathematics is granted to a limited number of students who have indicated an ability for advanced and original work. Normally, students take one or two years after the BA degree to obtain an MA degree, and they take four or five years to obtain a PhD. An MA is not a prerequisite for the PhD. For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4).

A number of graduate scholarships and fellowships are available, awarded on the basis of merit. As part of the graduate education in mathematics, students also engage in teaching or other instructional duties, generally for no more than six hours a week.

**MA Program**—Candidates for the MA in mathematics must:

- Complete with a grade of B or better a course of study approved by the department (students may transfer credits from another university only with the approval of both the department and the University Graduate Council)
- Perform satisfactorily on an examination in at least one approved foreign language (French, German, or Russian)
- Either complete all requirements for qualification as a candidate for the PhD (see below) or present and provide an oral defense of an original thesis acceptable to the department

**PhD Program**—Candidates for the PhD in mathematics must:

- Complete with a grade of B or better a course of study approved by the department (students may transfer credits from another university only with the approval of both the department and the University Graduate Council)
- Perform satisfactorily on qualifying examinations (see below)
- Perform satisfactorily on examinations in one approved foreign language (French, German, or Russian)
- Write an original thesis acceptable to the department
- Perform satisfactorily on a final oral examination on the thesis

**Qualifying Examinations**—The qualifying examinations in mathematics consist of the general examinations and the advanced oral examination.

To complete the **general examinations**, students must take exams, one each in algebra, analysis, and topology. Exams are offered every August, January, and May. First-year students may take any combination of exams at any time. After two semesters of study, students must attempt to pass all remaining exams at each offering. Students must perform satisfactorily on all three by the start of their fifth semester. Students may take an exam several times.
To complete the **advanced oral examination**, students must select a special field (e.g., homotopy theory, several complex variables, or group theory) and submit it to the department graduate committee for approval. The committee schedules an advanced examination in the selected field, normally six to nine months after the student completes the general examinations. While students failing the advanced examination may, with the approval of the committee, retake it on the same or possibly on a different topic, they generally are not allowed to take the advanced examination more than twice.

**See MATH in the Courses of Instruction section.**
MECHANICAL ENGINEERING AND MATERIALS SCIENCE

THE GEORGE R. BROWN SCHOOL OF ENGINEERING

DEGREES OFFERED: BA, BSME, BSMS, MAE, MME, MMS, MS, PhD

Studies in mechanical engineering may lead to specialization in one of several areas, including mechanics, computational mechanics, stochastic mechanics, fluid dynamics, heat transfer, dynamics and control, robotics, and aerospace sciences. Studies in materials science may lead to specialization in one of several areas, including computational materials, nanotechnology, metals physics, statistical mechanics, metallic solid thermodynamics, materials chemistry, aspects of composites, coatings and thin films, and interface science.

The graduate program offers professional degrees in both materials science and engineering, which is based on undergraduate preparation in a number of related fields, and mechanical engineering, which permits specialization in the areas previously mentioned. Graduate students also may pursue research degrees. A joint MBA/Master of Engineering degree is available in conjunction with the Jesse H. Jones Graduate School of Management. A combined MD and advanced research degree for research careers in medicine is available with Baylor College of Medicine.

The graduate program collaborates with other departments in its comprehensive educational and research activities. The Department of Computational and Applied Mathematics supports research in applied analysis and computational
mathematics. Work on robotics is done in cooperation with the Departments of Electrical and Computer Engineering and Computer Science. The campus-wide Rice Quantum Institute also is active in the research of electronic materials and other aspects of materials science. Finally, biomechanics and biomaterials research involves several institutions in the Texas Medical Center.

**Degree Requirements for BA, BS in Mechanical Engineering or BA and BS in Materials Science and Engineering**

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). The BA program in either mechanical engineering or materials science and engineering is highly flexible, involves less technical content than the BS, and allows students greater freedom to pursue areas of interest outside of engineering.

The two BS programs prepare students for the professional practice of engineering. During their senior year, mechanical engineering students in the BS program take courses in design application while completing a major design project, and materials science and engineering students in the BS program work on a design problem in an industrial setting. The BSME program is accredited by the Accreditation Board for Engineering and Technology (ABET). Departmental goals and objectives are available at mems.rice.edu/undergraduate/goals.html.

**BS in Mechanical Engineering Program**—Lists of representative undergraduate courses and the usual order in which they are taken are available from the department. The BSME degree contains a core of required courses and selected electives from one of five specialization areas. The requirements (for a total of 132 hours) are:

**Basic Mathematics and Science (30 hours)**
- CHEM 121–122 General Chemistry
- MATH 101 Single Variable Calculus I
- MATH 102 Single Variable Calculus II
- MATH 211 Ordinary Differential Equations and Linear Algebra
- MATH 212 Multivariable Calculus
- MSCI 301 Materials Science
- PHYS 101 Mechanics
- PHYS 102 Electricity and Magnetism

**Computational and Applied Mathematics (nine hours)**
- CAAM 210 Engineering Computation
- CAAM 335 Matrix Analysis
- CAAM 336 Differential Equations in Science and Engineering

**Senior Design (seven hours)**
- MECH 407 Mechanical Design Project I
- MECH 408 Mechanical Design Project II

**Labs (four hours)**
- MECH 331 Mechanics Lab

**Mechanical Engineering (31 hours)**
- MECH 332 Thermo/Fluids Lab
- MECH 340 Industrial Process Lab
- MECH 431 Senior Lab

**Limited Electives:**
- STAT 305, 310, or 331

**Technical Electives (nine hours)**

**Distribution Electives (24 hours)**

**Free Electives (15 hours)**
Technical Electives—Students are required to take a total of three technical electives. A minimum of two of these courses must come from Group A. The remaining course can come from Group A or B. Group A courses are fundamental courses in the following focus areas: aerospace engineering (AE), computational engineering (CompE), fluid mechanics and thermal science (FT), solid mechanics and materials (SMM), and system dynamics and control (SDC). Group B courses are additional technical electives that complement the focus areas listed above.

**Group A**

- MECH 400 Advanced Mechanics of Materials (SMM)
- MECH 403 Computer Aided Design (COMPE, SMM)
- MECH 411 Dyn and Control of Mech Sys (SDC)
- MECH 417 Finite Element Analysis (CompE)
- MECH 454 Comp. Fluid Mechanics (AE, CompE, FT)
- MECH 473 Advanced Fluid Mechanics II (FT)
- MECH 594 Introduction to Aerodynamics (AE,FT)
- MSCI 402 Mech Properties of Materials (SMM)

**Group B**—See department for current listing

**BA with a Major in Mechanical Engineering Program**—Students seeking the BA degree with a major in mechanical engineering must complete 120 hours with at least 67 semester hours in courses specified by the department, along with 24 hours of university distribution electives and 29 hours of free electives. Lists of courses, including general university requirements and the usual order in which students take them, are available from the department. The BA program mirrors the BSME program in the freshman and sophomore years, with the exceptions that MECH 331 and MECH 340 are not required. Specific major requirements are completed in the junior and senior years, along with electives. A summary appears below:

**Freshman Year**

Same as BS with 24 major and nine elective hours for 33 hours.

**Sophomore Year**

Same as BS (except MECH 331 and 340 are not required), with 18 major and 15 elective hours for 33 hours.

**Junior and Senior Years**

25 major and 29 electives for 54 hours. The following courses are required in junior and senior years:

- CAAM 335 Matrix Analysis (3)
- CAAM 336 Differential Equations in Science and Engineering (3)
- MECH 343 Modeling of Dynamic Systems (4)
- MECH 371 Fluid Mechanics I (3)
- MECH 401 Machine Design (3)
- MECH 412 Vibrations (3)
- MECH 420 Fundamentals of Control Systems (3)
- MECH 481 Heat Transfer (3)

**BA with a Major in Materials Science and Engineering Program**—Students seeking the BA degree with a major in materials science and engineering must complete at least 52 hours in courses specified by the department plus additional hours for a total of 120 hours at graduation.
BSMS Program—Students seeking the BSMS must complete at least 91 semester hours in courses specified by the department within the total requirements of 134 hours. Basic departmental course requirements for the BSMS are as follows:

**Chemistry (CHEM)**
- 121–122 General Chemistry

**Mathematics (MATH)**
- 101 Single Variable Calculus I
- 102 Single Variable Calculus II
- 211 Ordinary Differential Equations and Linear Algebra
- 212 Multivariable Calculus

**Physics (PHYS)**
- 101 Mechanics
- 102 Electricity and Magnetism

**CAAM (Computer, Artificial Intelligence, and Management)**
- 210 Introduction to Engineering Computation
- 335 Matrix Analysis

**CEVE (Civil and Environmental Engineering)**
- 300 Mechanics of Solids

**ELEC (Electrical Engineering)**
- 241 Fundamentals of Electrical Engineering I (or ELEC 243 Introduction to Electronics)

**MECH (Mechanical Engineering)**
- 211 Engineering Mechanics

**MSCI (Materials Science)**
- 301 Materials Science
- 303 Materials Science Junior Lab
- 311 Introduction to Design
- 401 Thermodynamics and Transport Phenomena in Materials Science
- 402 Mechanical Properties of Materials
- 404 Materials Engineering and Design
- 406 Physical Properties of Solids
- 411 Metallography and Phase Relations
- 415 Ceramics and Glasses
- 500/501 Materials Science Seminar
- 535 Crystallography and Diffraction
- 537 Materials Science Senior Lab
- 594 Properties of Polymers

One course from the following:
- 201 Waves and Optics
- 211 Organic Chemistry
- 311 Physical Chemistry

**Electives**
- One approved science elective (at the 200 level or higher)
- One approved engineering science elective (not MSCI)
- One approved technical elective

**Degree Requirements for MAE, MME, MMS, MS, and PhD in Mechanical Engineering or Materials Science and Engineering**

**Professional Degree Programs**—The professional degrees offered by this department—master of mechanical engineering (MME) and the master of materials science (MMS)—are open to students who have shown academic excellence in their undergraduate studies. The MME degree with a concentration in aerospace engineering (MAE) is for students intending to pursue a technical career in the aerospace industry.

For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4). For the MME, and MMS degrees, students must complete 30 semester hours of course work. Lists of required and suggested courses are available from the department. Students should develop a specific plan of study based on their particular interests and discussions with their advisor.

**Research Degree Programs**—The programs leading to the MS and PhD degrees are open to students who have demonstrated outstanding performance in their undergraduate studies. The granting of a graduate research degree presupposes academic work of superior quality and a demonstrated ability to do original research.

For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4). Course requirements for the research degrees vary depending on the extent of individual undergraduate preparation as well as each student’s
performance in graduate courses and on qualifying examinations. For both the MS and PhD degrees, students must present a thesis that comprises an original contribution to knowledge and defend it in a public oral examination. Each graduate student is expected to render research and/or instructional assistance to the department not to exceed 10 hours per week. Graduate student work assignments will be made by the department chair at the beginning of each semester.

All graduate students (except professional master’s students, MME/MMS) must attend at least 75 percent of the MEMS seminars. For details, please see the degree requirements on the Undergraduate Program page on the MEMS Web site at mems.rice.edu.

I. Requirements For The Professional Master’s Degrees (MAE, MME, And MMS)

Students are expected to complete 30 semester hours of courses approved by the department (a one-semester course is usually three semester hours credit). Requirements and specific courses to be taken depend on each student’s field of study. Students must discuss their individual degree plans and programs of study with their advisors. For details, please see the degree requirements on the Undergraduate Program page on the MEMS Web site at mems.rice.edu.

<table>
<thead>
<tr>
<th>Degree At Entrance</th>
<th>4-year BS</th>
<th>4-year BA</th>
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<tbody>
<tr>
<td>Minimum graduate level semester hours required (course work)</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

See Undergraduate Students section, pages 2–5, for total semester hours required by Rice University.

II. Requirements For The MS Degree

Full-time students seeking the MS degree are expected to complete all the requirements for the degree within two calendar years following entrance into the program. Continuation in the program beyond this time limit will require special approval of the department.

All entering graduate students pursuing a thesis degree program will be subject to a preliminary evaluation of their candidacy for the highest degree program they intend to pursue. The evaluation will be conducted by the end of the second semester of enrollment in the graduate program in the MEMS department.

Each candidate for the MS degree must complete a thesis demonstrating ability in research of a fundamental nature (analytical or experimental). It is expected that the research will be of sufficient importance and quality that positive results would lead to publication. The examination will be conducted by a committee consisting of at least three members. Two, including the committee chair, must be members of the department.

The minimum semester hours of course work (a one-semester course is usually three semester hours credit) required for the MS degree are tabulated below as a function of the degree held on entrance into the program. Research and thesis hours, as well as seminar hours, do not count towards these course requirements. In all cases, a student’s specific course of study is formulated in consultation with the departmental advisor (thesis director) and must be approved by the department.
III. Requirements For The PhD Degree

Full-time students seeking the PhD degree are expected to complete all the requirements for the degree within five calendar years following entrance into the program. Continuation in the program beyond this time limit will require special approval of the department.

All entering graduate students pursuing a thesis degree program will be subject to a preliminary evaluation of their candidacy for the highest degree program they intend to pursue. The evaluation will be conducted by the end of the second semester of enrollment in the graduate program in the MEMS department.

By the end of the third year of enrollment in the graduate program in the MEMS department, the student must pass an oral qualifying examination.

Students pursuing a PhD degree in materials science will be examined in four areas: 1) thermodynamics and kinetics; 2) structures, crystallography, and diffraction; 3) mechanical properties; and 4) electrical, optical, and magnetic properties.

Each candidate for the PhD must complete a thesis that constitutes an original contribution to scientific knowledge (analytical or experimental). It is expected that the research will be of sufficient importance and quality that positive results would lead to publication. On completion of the thesis, each candidate for the PhD degree must pass a final public oral examination. The examination will be conducted by a committee consisting of at least three members. Two, including the committee chair, must be members of the department. One member must be from another department within the university.

The minimum semester hours of course work (a one-semester course is usually three semester hours credit) required are tabulated below as a function of the degree held on entrance into the program. In all cases, a student’s course of study is formulated in consultation with the thesis director and must be approved by the department.

<table>
<thead>
<tr>
<th>Degree At Entrance</th>
<th>5-year</th>
<th>4-year BS</th>
<th>4-year BA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum graduate level semester hours required (course work)</td>
<td>12</td>
<td>24</td>
<td>30</td>
</tr>
</tbody>
</table>

For details, please see the degree requirements on the Undergraduate Program page on the MEMS Web site at mems.rice.edu.

See MECH and MSCI in the Courses of Instruction section.
**MEDIEVAL STUDIES**

**THE SCHOOL OF HUMANITIES**

**DIRECTOR AND ADVISOR**
Linda Neagley

**PROFESSORS**
Jane Chance
Michael Maas
Donald Ray Morrison
Deborah Nelson-Campbell
Paula Sanders
Diane Wolfthal

**ASSOCIATE PROFESSORS**
David Cook

**DEGREE OFFERED: BA**

This interdisciplinary major enables students to compare medieval cultures, noting both their differences and their common traditions, in the period between 500 and 1500 AD. The program combines a broad background in various aspects of medieval culture with more specialized study in a selected field. These fields of emphasis include medieval art history, history, literature (Arabic, Chinese, German, Italian, English, French, or Latin), music, philosophy, or religion.

**DEGREE REQUIREMENTS FOR BA IN MEDIEVAL STUDIES**

For general university requirements, see Graduation Requirements in this publication. Students majoring in medieval studies must complete at least 30 semester hours (10 courses); the minimum for double majors is 24 hours. All majors must complete five of these medieval studies courses at the 300 or 400 level.

Required and recommended courses include the following:

A minimum of 30 semester hours (10 semester courses), of which at least five courses must be at the 300/400 level. Double majors must complete a minimum of 24 semester hours.

One course in medieval literature; one course in medieval art or medieval music; one course in medieval history or philosophy

Frequently taught courses (i.e., at least every two years):

**Literature**

- MDST 310 Dante
- MDST 316 Chaucer
- MDST 317 Arthurian Literature
- MDST 335 Mapping German Culture: Courtship, Love, and Marriage in the Age of Chivalry
- MDST 368 Mythologies
- MDST 370 Introduction to Traditional Chinese Poetry
- MDST 375 Introduction to Classical Chinese Literature
• MDST 379 Women in Chinese Literature
• MDST 404 Beginnings in the Language and Literature of France
• MDST 425 Courtly Love in Medieval France

**Art**
• MDST 330 Early Medieval Art
• MDST 331 Gothic Art and Architecture in Northern Europe, 1140–1300
• MDST 332 Late Gothic Art and Architecture in Northern Europe, 1300–1500

**Music**
• MDST 222 Medieval and Renaissance Eras
• MDST 429 Music in the Middle Ages

**History**
• MDST 281/381 Pre–Modern Middle East History
• MDST 382 Classical Islamic Cultures

**Philosophy**
• MDST 201 History of Philosophy

**Religious Studies**
• MDST 105 Medieval Christian Thought

It is *recommended*, but not *required*, that students take two semesters at the college level in an appropriate language (or languages), in particular, Latin. Three courses (at least two at the 300 or 400 level) in the student’s chosen field of emphasis—one of these may be a directed reading course.

For single majors, three additional courses in the medieval period, one of which may be a senior thesis (one semester) on a topic in the student’s field of emphasis; for double majors, one additional course in the medieval period.

Students work out their programs of study in consultation with the program director. Those contemplating graduate work in medieval studies should study at least one foreign language in some depth (as most graduate schools require a reading knowledge of French and German for the PhD).

Students may select from among the following to fulfill the course requirements for the major in medieval studies.

Please note that not all courses listed below will be offered during the academic year. For a current list of courses that will be offered, please visit the Medieval Studies website at medieval.rice.edu.

**Classical Studies**

MDST 101 Elementary Latin I
MDST 102 Elementary Latin II
MDST 211 Intermediate Latin I
MDST 212 Intermediate Latin II

**English**

MDST 300 Medieval Women Writers
MDST 310 Dante in Translation
MDST 311 Old English
MDST 313 Beowulf
MDST 315 Medieval Culture through Film
MDST 316 Chaucer
MDST 317 Arthurian Literature
MDST 318 J. R. R. Tolkien and Medieval Literature
MDST 320 Directed Readings in Medieval Studies
MDST 368 Mythologies

**French Studies**

MDST 404 Beginnings of Language and Literature of France
MDST 410 The Literary and Historical Image of the Medieval Woman
MDST 425 Courtly Love in Medieval France
MDST 436 Literature and Culture of the Middle Ages
See MDST in the Courses of Instruction section.
The goal of the U.S. Army ROTC program is to develop technically competent, physically fit, and highly motivated men and women for positions of responsibility as commissioned officers in the active U.S. Army, the U.S. Army Reserve, and the National Guard. Upon completion of the curriculum, students will have an understanding of the fundamental concepts and principles of the military as an art and as a science. The leadership and managerial experience gained through ROTC provides great benefit for students in both their civilian endeavors and in their military careers.

Degree Requirements

Rice does not offer a bachelor’s in military science. However, interested students can obtain a degree in any of the other programs offered by Rice. Credit for courses in military science may be obtained by attending courses at the University of Houston. The financial aid available to a ROTC student may be used for Rice courses as well as the University of Houston ROTC courses.

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). For requirements for a specific degree program, see the pages for that degree program. For more information on the Army ROTC program in particular, contact the military science department at the University of Houston by calling 713-743-3875.

Statutory Authority—General statutory authority for establishment and operation of the ROTC program, including the scholarship program, is contained in Title 10, United States Code, Chapter 103 (Sec. 2102–2111). Specific rules and procedures are found in U.S. Army Regulation 145–1.

Course Credit—ROTC classes may be taken for elective credit toward any degree plan at the University of Houston or Rice University. Freshman- and sophomore-level classes are open to all students, regardless of age or physical condition. No military obligation is incurred as a result of enrollment in these courses. Junior- and senior-level courses are more restrictive and do require a military obligation. ROTC scholarship students also incur a military obligation.

Four-Year Program—The four-year program is divided into two courses: the basic course, which is normally attended by students during their freshman- and sophomore years; and the advanced course, attended during the junior and senior years. Advanced course students attend a six-week paid advanced camp in Fort Lewis, Washington, normally between their junior and senior years.

The Basic Course—The basic course consists of four semesters of military science, which include MILI 121, MILI 122, MILI 201, and MILI 202. These
freshman- and sophomore-level classes are open to all students without obligation.

**The Advanced Course**—Students entering the advanced course must enter into a contract to pursue and accept a commission in the active army, the Army Reserve, or the National Guard. To be considered for contracting into the advanced course, the student must be a full-time student in a course of instruction that leads to a degree in a recognized academic field, have a minimum of two years of academic work remaining in a curriculum leading to a baccalaureate or advanced degree, be under age 30 when commissioned, and pass a physical and medical examination.

**Two-Year Program**—The two-year program is designed for students who did not take the basic course but otherwise are eligible to enroll in the advanced course. This program allows students completing their sophomore year to attend a four-week Leader’s Training Course during June and July at Fort Knox, Kentucky, in lieu of taking the first two years of ROTC. *There is no military obligation for attending Leader’s Training Course.* The army provides transportation, room, and board. Students are paid approximately $900 for the four-week period.

**Laboratory Requirements**—A military science laboratory is required for students enrolling in MILI 121, MILI 122, MILI 201, MILI 202, MILI 301, MILI 302, MILI 401, and MILI 402. This laboratory provides hands-on opportunities for marksmanship training, rappelling, drill and ceremonies, communications training, and other activities.

**Veterans**—Veterans who have served on active duty or in the Army Reserve or National Guard also are eligible for the ROTC program. Although veterans are not required to take the basic course, they are encouraged to do so. All students, including veterans, must have a minimum of 54 credit hours prior to enrolling in the advanced course.

**National Guard and Army Reserve Members**—Students enrolled in ROTC may also be members of the Army Reserve/National Guard. Through the Simultaneous Membership Program (SMP), those students enrolled in the advanced course will be placed in a leadership position as a cadet and will receive pay and entitlements from the National Guard or Army Reserve in the pay grade of Sergeant (E-5).

**Financial Assistance**—The United States Army offers, on a competitive nationwide basis, four-, three-, and two-year scholarships. The scholarships cover tuition 100%. Recipients also receive benefits for educational fees (to include lab fees), a book allowance, and a subsistence allowance ranging from $300 to $500 per month. Applicants must be U.S. citizens and must be under age 27 on the anticipated graduation date. Applications are available from the military science department. Veteran applicants can extend the age limit up to a maximum of three years, based on prior active duty service.

**Other Financial Aid**—All students enrolled in the advanced course will receive a subsistence allowance of $450 per month junior year and $500 per month senior year. For more information, contact the military science department. GI Bill recipients still retain benefits.
Tuition—Members of the Army or the Army Reserve, National Guard, Texas State Guard, or other reserve forces may be exempted from the nonresident tuition fee and other fees and charges.

Special Training—Basic- and advanced-course students may volunteer for and may attend the U.S. Army Airborne and Air Assault courses during June, July, and August. Cadet Troop Leadership Training positions also are available to Advanced-course cadets during the summer months.

Miscellaneous—All participating cadets are eligible for our internal scholarships provided by our alumni and sponsors of the program.

The Corps of Cadets sponsors an annual military ball in addition to other social events throughout the school year. The Department of Military Science sponsors extracurricular activities such as the University of Houston Color Guard and the Ranger Challenge Team.

Minor in Military Science—To qualify for a minor in military science, students must complete a minimum of 18 semester hours of course work, of which 12 must be advanced. Nine semester hours must be completed in residence, of which six must be advanced. Students also must attend advanced camp. Students must attain a 3.0 grade point average or higher in military science courses attempted at this university. Students may receive credit for 100- and 200-level courses based on prior military training, completion of ROTC Basic Camp, completion of JROTC training, or completion of one year at a service academy.

See MILI in the Courses of Instruction section (these are University of Houston listings).
Music

The Shepherd School of Music

Dean
Robert Yekovich

Professors
Robert Atherholt
Richard Bado
Richard Brown
Leone Buyse
Marcia J. Citron
James Dunham
Paul V. H. Ellison
Norman Fischer
Kenneth Goldsmith
Arthur Gottschalk
Desmond Hoebig
Clyde Holloway
Thomas I. Jaber
Benjamin C. Kamins
Kathleen Kaun
Stephen King
Richard Lavenda
Cho-Liang Lin
Sergiu Luca
Susanne Mentzer
Jon Kimura Parker
Timothy Pitts
Larry Rachleff
Robert Roux
Marie Speziale
Ivo-Jan van der Werff
William VerMeulen
Michael Webster
Kathleen Winkler

Associate Professors
Karim Al-Zand
Walter B. Bailey
Gregory Barnett
Anthony K. Brandt
Shih-Hui Chen

David Ferris
Pierre Jalbert
David E. Kirk
Thomas LeGrand
Paula Page
Brinton Smith
Kurt Stallmann
David L. Waters

Assistant Professor
Peter V. Loewen

Artist Teachers
Brian Connelly
Jan de Chambrier
Joan DerHovsepyan
Debra Dickinson
Jeanne Kierman Fischer
Christopher French
Hans Graf
Eric Halen
Grant Loehnig
Sohyoung Park
Janet Rarick
C. Dean Shank Jr.

Lecturers
Nancy Gisbrecht Bailey
Rachel Buchman
Susan Dunn
Phillip Kloeckner
Virginia Nance
Robert Simpson
Cornelia Watkins
Chapman Welch

Adjunct Professors
David B. Rosenfield
C. Richard Stasney

Adjunct Lecturer
Pieter A. Visser

Degrees Offered: BA, BMus, BMus/MMus, MMus, DMA

At the undergraduate level, The Shepherd School of Music offers both professional training and a broad liberal arts curriculum. Degree programs include a BA degree in music and a BMus degree in performance, composition, music history, and music theory. Acceptance into a five-year honors program leads to the simultaneous awarding of the BMus and MMus degrees.

At the graduate level, the school offers professional music training for qualified students who concentrate on music composition, performance, or research that
is supported by lab or performing ensembles. This training includes theory and history seminars. Advanced degree programs include a MMus degree in composition, choral and instrumental conducting, historical musicology, performance, and music theory and a DMA degree in composition and selected areas of performance.

Requirements for All Music Majors

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). All students majoring in music must participate in core music, applied music, and other required music courses as well as in chamber music and large ensembles, plus electives. They are entitled to one hour of private lessons each week of each semester they are enrolled as a music major; private or group lessons beyond this may result in additional fees. Students in the BA program who wish to continue taking private lessons beyond the required four semesters of instrumental or vocal study must obtain permission from the dean of the Shepherd School.

Examinations—At the end of each semester, a jury examination in applied music may be given over the material studied during the semester. All degree candidates except BA students must demonstrate keyboard proficiency by examination. If students have little or no knowledge of the keyboard, they should enroll in secondary piano at the beginning of their first semester and continue study until they can meet the examination requirements.

Performance—Students are expected to perform frequently during their residence at Rice. Performance majors must present at least two full recitals. Composition and conducting students should present recitals as specified by their degree programs. Students are expected to attend both faculty and student recitals. In addition, all music majors must participate in the school’s conducted ensembles as assigned.

Degree Requirements for BA in Music, BMus, and BMus/MMus

Admission—An audition, either in person or on tape, is required of each undergraduate applicant. The Shepherd School faculty and the university’s Committee on Admission jointly determine admission, the latter basing its evaluation on successful academic achievement and other standards of college admission. Transfer applicants from other colleges, conservatories, and universities also must provide an audition, personal or recorded, and take placement exams in both music history and music theory. Once admitted, their prior preparation in music is assessed, which may reduce the required period of study at Rice.

BA and BMus Program—For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5).

For either bachelor’s degree, students majoring in music must have a total of at least 120 semester hours at graduation. The complete curriculum for each major in music is available in the Shepherd School Student Handbook or in the undergraduate music office on the second floor of Alice Pratt Brown Hall. While the number of required hours vary according to major area, all music students must take the following core courses (those in the BA program are not required to take MUSI 331, 332, and 431).

- **Music Theory:** MUSI 211, 212, 311, 312, and a theory elective chosen from MUSI 416, 512, 513, or 613.
• **Music History**: MUSI 222, 321, 322, and 421.
• **Aural Skills and Performance Techniques**: MUSI 231, 232, 331, 332, and 431.

**BMus/ MMus Honors Program**—The same general university requirements apply, but students seeking the combined BMus/MMus degree must complete a total of at least 150 semester hours by graduation. The number of required hours varies according to major area.

The first five semesters of course work in this program parallel the core curriculum of the bachelor’s degrees. The sixth semester is a transitional semester during which students qualify for admission to the combined program. For further information, including application procedures, see the *Shepherd School Student Handbook*.

**Degree Requirements for MMus and DMA in Music**

**Admission**—For instrumental, voice, and conducting applicants, an audition is required. Composition majors must submit portfolios, and musicology and theory majors must provide samples of their written work. The Graduate Record Examination (GRE) is required of graduate applicants in musicology and theory. Musicology applicants also must complete the advanced music tests.

**Requirements**—For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4). For the MMus degree, candidates must complete at least two semesters of full–time study at Rice. Semester hour minimums for the MMus degree vary according to major area. For the DMA, candidates must complete a total of 90 hours beyond the bachelor’s degree, attending Rice full time for at least four semesters after receiving their MMus degree.

**Thesis**—A thesis is required of both music history and music theory majors. In lieu of a thesis, composition majors must produce an original work of extended scope, and conducting majors must present an extended composition or project.

**Academic Standards**

**Curriculum and Degree Requirements**—Further information on curricular requirements for all majors and degree programs is available from the Shepherd School of Music.

**Grading Policy**—*All* music students must achieve at least a B– in course work in their major applied area. Students who receive a C+ or lower in their major applied area are placed on music probation. Music probation signals that the work of the student has been sufficiently unsatisfactory to preclude graduation unless marked improvement is achieved promptly. While on probation, they may not be absent from class except for extraordinary reasons, and they may not represent the school in any public function that is not directly part of a degree program. After receiving a second C+ or lower in their major area, whether in consecutive semesters or not, students are discontinued as music majors.

**Leaves of Absence and Voluntary Withdrawal**—Music majors must obtain permission in writing from the dean of the Shepherd School before requesting a leave of absence from the university. Requests must be in the dean’s office before the first day of classes in the semester for which leave is requested.

Music majors taking voluntary withdrawal from the university are not guaranteed readmission into the Shepherd School and may be asked to reapply/reaudition.
Students should explain the reasons for their withdrawal to the dean before leaving campus.

**Other Musical Opportunities**

**For Nonmajors**—Students who are not music majors may take the following courses designed for the general student (other music courses require the permission of the instructor and the approval of the dean of the Shepherd School).

- MUSI 111 *Musical Lives*
- MUSI 112 *Great Literature in Great Music*
- MUSI 117/118 *Fundamentals of Music I and II*
- MUSI 119 *Music of the World*
- MUSI 317/318 *Theory for Nonmajors I and II*
- MUSI 327/328 *Music Literature for Nonmajors I and II*
- MUSI 334/335 *Campanile Orchestra and Rice Chorale*
- MUSI 141–197 for individual instruction in all instruments
- MUSI 340 *Concert Band*
- MUSI 342 *Jazz Ensemble*
- MUSI 345 *Jazz Improvisation*
- MUSI 415 *Band Arranging*

**Lectures and Performances**—A visiting lecturer series, a professional concert series, and numerous distinguished visiting musicians contribute to the Shepherd School environment. The Houston Symphony Orchestra, Symphony Chorus, Houston Grand Opera, Texas Opera Theater, Houston Ballet, Houston Masterworks Chorus, Da Camera, Context, and Houston Friends of Music, as well as the activities of other institutions of higher learning in the area, also provide exceptional opportunities for students to enjoy a wide spectrum of music.

See MUSI in the Courses of Instruction section.
Nanoscale Physics

The Wiess School of Natural Sciences

Director
F. Barry Dunning

Professors
Andrew R. Barron
Vicki L. Colvin

Associate Professors
Thomas C. Killian
Frank R. Toffoletto
Jason H. Hafner
Douglas A. Natelson

Degrees Offered: MS

Rice University introduced the professional master’s degree in nanoscale physics in fall 2002. This program combines a strong component in quantum theory, which governs the behavior of systems at the nanoscale, with the study of practical nano- and mesoscale devices. The program provides the student with the knowledge required to successfully navigate the emerging field of nanotechnology. New courses cover cutting-edge areas such as quantum behavior of nanostructures, quantum nanotechnology, nanoscale imaging, and the fabrication of nanostructures. In addition, a year-long course in methods of experimental physics ensures that students obtain the advanced practical skills valuable to industry.

The nanoscale physics degree is one of three tracks in the Professional Master’s Program at Rice housed in the Wiess School of Natural Sciences. These master’s degrees are designed for students seeking to gain further scientific core expertise coupled with enhanced management and communication skills. These degrees instill a level of scholastic proficiency that exceeds that of the bachelor’s level and creates the cross-functional aptitudes needed in modern industry. This will allow students to move more easily into management careers in consulting or research and development, design, and marketing of new science-based products.

Degree Requirements for the MS in Nanoscale Physics

In addition to the core science courses, students are required to complete a three- to six-month internship and take a set of cohort courses focusing on business and communication. At the conclusion of the internship, students must present a summary of the internship project in both oral and written form as part of the Professional Master’s Seminar.

Part-time students who already work in their area of study may fulfill the internship requirement by working on an approved project with their current employer. Certain course requirements may be waived based upon prior graduate coursework or industrial experience. For general university requirements for graduate study, see Graduate Students section, pages 2–3 and see also Professional Degrees, pages 4–5.

Admission

Admission to graduate study in nanoscale physics is open to qualified students holding a bachelor’s degree in physics, electrical engineering, or a related field that includes intermediate level work in mathematics, electrodynamics, and quantum physics. Department faculty evaluate the previous academic record and credentials of each applicant individually.
**Science core courses:**
PHYS 533 Nanostructures and Nanotechnology I (F)
PHYS 539 Characterization and Fabrication at the Nanoscale (F)
PHYS 537 Methods of Experimental Physics I (F)
PHYS 534 Nanostructures and Nanotechnology II (S)
PHYS 538 Methods of Experimental Physics II (S)
PHYS 416 Computational Physics (S)

**Cohort courses:**
NSCI 501 Professional Master’s Seminar (F, S) [required for 2 semesters]
NSCI 511 Science Policy and Ethics (S)
NSCI 512 Professional Master’s Project (F, S)
NSCI 610 Management in Science and Engineering (F)

**Internship**
An internship may be conducted under the guidance of a host company, government agency, or national laboratory. A summary of the internship project is required in both oral and written form as part of the Professional Master’s Project.

**Elective Courses**
Note: Each of these electives is not offered every year, and some courses may have prerequisites or require instructor permission.

Students will choose four elective courses, two of which must be science or engineering 500 level or above. Recommended courses include, but are not limited to, the following:

CAAM 378 Introduction to Operations Research (F)
CENG 630 Chemical Engineering of Nanostructured Materials (S)
CEVE 322 Engineering Economics for Engineers
CHEM 533 Nanoscale Chemistry
CHEM 547 Supramolecular Chemistry (F)
CHEM 560 Molecular Spectroscopy and Group Theory (F)
ELEC 561 Topics in Semiconductor Manufacturing (S)
ELEC 562 Submicrometer and Nanometer Device Technology (S)
ELEC 565 Topics in Semiconductor Nanostructures (F)
ELEC 568 Laser Spectroscopy (F)
ELEC 571 Imaging at the Nanoscale (S)
ELEC 603 Nano-optics and Nanophotonics (F)
ELEC 685 Fundamentals of Medical Imaging (F)
ENG 303 Engineering Economics and Management (S)
ECON 437 Energy Economics
MGMT 636 Systems Analysis and Database Design
MGMT 661 International Business Law (F)
MGMT 674 Production and Operations Management (F)
MGMT 721 General Business Law (S)
NSCI 625 New Venture Creation in Science and Engineering (S)
PHYS 569 Ultrafast Optical Phenomena (S)

**Professional Science Master’s 5th Year Degree Option for Rice Undergraduates**
Rice students have an option to achieve the MS in nanoscale physics by adding an additional fifth year to the four undergraduate years of science studies. Advanced Rice students in good standing apply during their junior year, then start taking required core courses of the nanoscale physics program during their senior year. A plan of study based on their particular focus area will need to be approved by the track director and the PSM director.
Naval Science

Degrees Offered: none

Students enroll in the Navy Reserve Officers’ Training Corps (ROTC) program as scholarship or nonscholarship students. The Department of Naval Science is administered by a senior U.S. Navy officer, assisted by officers and enlisted personnel of the U.S. Navy and Marine Corps.

Degree Requirements

Rice does not offer a bachelor's in naval science. However, interested students can obtain a degree in any of the other programs offered by Rice. Credit for courses in naval science may be obtained. Financial aid and scholarships may be available to a Navy ROTC student.

For university requirements for a specific degree, see Graduation Requirements and the section pertaining to that degree. Program requirements differ slightly depending on the student's scholarship status.

Scholarship Navy ROTC students are appointed midshipmen, U.S. Naval Reserve, on a nationwide competitive basis. They receive stipend pay of $250–$400 per month for a maximum of four academic years, with all tuition, fees, and equipment paid for by the Navy. Additionally, students receive $375 per semester for books. Midshipmen must complete the prescribed naval science courses and participate in drills and three summer cruises. After graduating with a bachelor's degree, they accept a commission as an ensign in the U.S. Navy or as a second lieutenant in the U.S. Marine Corps.

Nonscholarship Navy ROTC students enter into a mutual contract with the Secretary of the Navy to take naval science courses and to participate in drills and one summer training cruise. On a competitive basis, students may apply to continue in the Navy ROTC program through their junior and senior years. The U.S. Navy pays these continuing students $300–$400 per month during their junior and senior years, offering them a commission in the U.S. Navy or Marine Corps upon graduation. The program chair may recommend nonscholarship students, on a local competitive basis, for scholarship status.

Two-Year Program Option—In their sophomore year (junior year for five-year Rice students), students may apply for the two-year Navy ROTC program, competing nationwide for available scholarships. If selected, they attend the six-week Naval Science Institute (NSI) at Newport, Rhode Island, during July and August. NSI provides students with course material and training normally covered during the first two years of the regular
Navy ROTC program. Successful completion of NSI qualifies students for enrollment in the advanced Navy ROTC program on an equal footing with the four-year students. Usually about 15 percent of the nonscholarship students finishing NSI are offered two-year Navy ROTC scholarships. Additional scholarships occasionally may be awarded to others upon the recommendation of the program chair.

**U.S. Marine Corps Option Program**—Navy ROTC students, either scholarship or nonscholarship, may apply for the U.S. Marine Corps program. Students selected for that program are referred to as “Marine Corps option students” and complete Evolution of Warfare and Amphibious Operations classes during their junior and senior years.

**See NAVA in the Courses of Instruction section.**
In the 1999–2000 academic year, Rice University began offering a new set of courses in the area of neuroscience to supplement a set of courses already offered by various departments in closely allied areas. These courses, which carry the designation NEUR, are offered in part by faculty associated with the Division of Neurosciences at Baylor College of Medicine, in part by faculty at the University of Texas Medical School at Houston, and in part by faculty at Rice in several different departments (including biochemistry and cell biology, computer science, electrical and computer engineering, linguistics, and psychology.) They are intended primarily for Rice graduate students but, with permission, are available to advanced undergraduates. Some of these classes are taught at the nearby Texas Medical Center campus and some are taught according to Baylor's or UT's academic calendars, which are different from Rice's. For further information on what courses are available and for instructions on how to apply to enter these classes, consult Rice’s neuroscience Web site at www.ruf.rice.edu/~neurosci/.

See NEUR in the Courses of Instruction section.
Philosophy is best described as the attempt to think clearly and deeply about the fundamental questions that arise for us as human beings. What is the nature of knowledge (epistemology)? How are we to distinguish between what really is and what only seems to be (metaphysics)? What is the right thing to do (ethics)? Is there any meaning to existence? To study the history of philosophy is to study the best, most enduring answers that have been given to these questions in the past. Because every other field of study adopts some stance toward these questions, though often implicitly, philosophical issues arise in the natural and social sciences, history, linguistics, literature, art, and so on. Special courses in philosophy deal with each of these. Characteristic of philosophy are commitments to the construction and evaluation of arguments, to expressing thoughts clearly and precisely, and to defending one’s ideas and evaluating the ideas of others. The study of philosophy thus provides resources for critical participation in all realms of human endeavor.

The graduate program trains students to teach and pursue research in the main areas of department concentration: ethics (especially bioethics) and social and political philosophy, history of philosophy, continental philosophy, and core portions of contemporary analytic philosophy.

Degree Requirements for BA in Philosophy

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). Students majoring in philosophy must complete 30 semester hours (10 three-hour departmental courses); at least 18 hours (six courses) must be at the 300 level or above. A double major must complete 27 hours (nine three-hour departmental courses) with all other requirements remaining the same.

Majors must take the following courses:

- PHIL 201 History of Philosophy I
- PHIL 202 History of Philosophy II
- Either PHIL 106 Logic or PHIL 305 Mathematical Logic

In addition, majors must take at least one course from each of the following area lists:
Senior Thesis and Honors in Philosophy:

Qualified majors may apply before their senior year for directed research leading to a senior thesis, carried out during both semesters of the senior year. Each semester will require three credit hours; these six hours are in addition to the course hours required for the major.

To qualify for the program, students will be required to have an approved research proposal and the agreement of a faculty member to serve as advisor for that project. Applicants will normally be required to have a GPA of 3.75 in philosophy courses and to have completed at least two upper-level courses in the distribution area of the proposed research. (See the major requirements for the definition of the distribution areas.) Applications should be submitted to the undergraduate advisor (UGA) and will be evaluated by the department.

Students who are considering applying to write a senior thesis should consult the UGA and potential advisors as early as possible. Normally students will apply before preregistration in the second semester of their junior year and will spend time during the following summer reading from a list they have developed with their advisor. The thesis normally will be between 7,500 and 15,000 words (approximately 30–60 pages) in length. Students will enroll in PHIL 411 and 412. Students accepted into the Rice University Scholars Program should enroll in HONS 470 and 471 and will be awarded departmental honors for their work in that program if they meet the requirements in this statement. Note that acceptance into the departmental honors program is a separate process from acceptance in RUSP, as is the evaluation for departmental honors.

To be considered for honors, the senior thesis must be completed by April 1. The thesis will be read and evaluated by the advisor and a second reader chosen by the department, and the final decision on honors will be made by the entire faculty. A student will receive honors if he or she receives a grade of A or A- in PHIL 412. Completion of the major with at least a 3.5 GPA in all philosophy courses is required for departmental honors. Students who miss the April 1 deadline for thesis submission but meet the university deadline for the semester will receive a grade and credit for completed work but will not be considered for honors. Students whose thesis is not awarded honors will receive a grade and credit for completed work.

Degree Requirements for MA and PhD in Philosophy

For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4). Students have the additional option of applying for a doctoral program specializing in bioethics (see below).
For the **MA** in philosophy, candidates must:

- Complete with high standing at least 30 semester hours in advanced courses approved by the department
- Complete a written thesis on a subject approved by the department
- Perform satisfactorily on a final oral examination (not limited to the student's special field of study)

For the **PhD** in philosophy, candidates must:

- Complete with high standing 42 hours of course work approved by the department (including logic)
- Demonstrate competence in logic
- Pass a qualifying examination
- Perform satisfactorily on an oral defense of their thesis proposal
- Complete a written thesis on a subject approved by the department (at least one year of thesis research must be spent in residence)
- Perform satisfactorily on a final oral examination (not limited to the student's special field of study)

**Bioethics Program**—The PhD in philosophy with a specialization in medical ethics is offered in cooperation with the Center for Medical Ethics and Health Policy at Baylor College of Medicine. Applicants to this special program must have enough background in philosophy to complete two and a half years of strong general training in philosophy at the graduate level. After completing their general training, students receive instruction in clinical bioethics at Baylor College of Medicine and then write a dissertation drawing on their philosophical and clinical training. Further information about this program is available from the Department of Philosophy.

**See PHIL in the Courses of Instruction section.**
The Department of Physics and Astronomy offers undergraduate and graduate programs for a wide range of interests. The bachelor of arts degrees in physics and astronomy are suitable for students who wish to obtain a broad liberal education with a concentration in physical science. The bachelor of science degrees in physics, astrophysics, and chemical physics provide preparation for employment or further study in physics and related fields. Students in the professional nonthesis, MST program obtain training in science teaching.
Research facilities and thesis supervision are available for MS and PhD students in atomic, molecular, and optical physics; biophysics; condensed matter and surface physics; earth systems science; nuclear and particle physics; observational astronomy; solar system physics; space plasma physics; and theoretical physics and astrophysics.

**Undergraduate Degrees**

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). Major requirements consist of a common core of basic physics and mathematics courses, with additional course work specific to each degree program. Students may obtain credit for some courses by advanced placement, and the department’s undergraduate committee can modify requirements to meet the needs of students with special backgrounds.

**Degree Requirements for BS in Physics**

### All options must complete

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 101 or 111</td>
<td>Mechanics (with lab)</td>
</tr>
<tr>
<td>PHYS 102 or 112</td>
<td>Electricity and Magnetism (with lab)</td>
</tr>
<tr>
<td>PHYS 201</td>
<td>Waves and Optics</td>
</tr>
<tr>
<td>PHYS 202</td>
<td>Modern Physics</td>
</tr>
<tr>
<td>PHYS 231</td>
<td>Elementary Physics Laboratory II</td>
</tr>
<tr>
<td>PHYS 301</td>
<td>Intermediate Mechanics</td>
</tr>
<tr>
<td>PHYS 311</td>
<td>Introduction to Quantum Physics I</td>
</tr>
<tr>
<td>PHYS 425</td>
<td>Statistical and Thermal Physics</td>
</tr>
<tr>
<td>PHYS 491 and 492</td>
<td>Undergraduate Research</td>
</tr>
<tr>
<td>PHYS 493 and 494</td>
<td>Undergraduate Research Seminar</td>
</tr>
</tbody>
</table>

(The undergraduate research course and seminar must be taken concurrently.)

### Additional courses for the BS in physics with general physics option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 101 and 102</td>
<td>Single Variable Calculus I and II</td>
</tr>
<tr>
<td>MATH 211</td>
<td>Ordinary Differential Equations and Linear Algebra</td>
</tr>
<tr>
<td>MATH 212</td>
<td>Multivariable Calculus</td>
</tr>
</tbody>
</table>

(MATH 221 and 222 Honors Calculus III and IV may substitute for MATH 211 and 212)

### Additional courses for the BS in physics with applied physics option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 302</td>
<td>Intermediate Electrodynamics</td>
</tr>
<tr>
<td>PHYS 312</td>
<td>Introduction to Quantum Physics II</td>
</tr>
<tr>
<td>PHYS 331/332</td>
<td>Junior Physics Laboratory I and II</td>
</tr>
<tr>
<td>PHYS 411</td>
<td>Introduction to Nuclear and Particle Physics</td>
</tr>
<tr>
<td>PHYS 412</td>
<td>Solid State Physics</td>
</tr>
<tr>
<td>MATH 381</td>
<td>Introduction to Partial Differential Equations</td>
</tr>
<tr>
<td>MATH 382</td>
<td>Complex Analysis</td>
</tr>
<tr>
<td>or CAAM 335</td>
<td>Matrix Analysis and CAAM 336 Differential Equations in Science and Engineering</td>
</tr>
<tr>
<td>CHEM 121 and 122</td>
<td>General Chemistry (with lab)</td>
</tr>
<tr>
<td>or CHEM 151 and 152</td>
<td>Honors Chemistry (with lab)</td>
</tr>
</tbody>
</table>

### Additional courses for the BS in physics with biological physics option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 302</td>
<td>Intermediate Electrodynamics</td>
</tr>
<tr>
<td>PHYS 331/332</td>
<td>Junior Physics Laboratory I and II</td>
</tr>
<tr>
<td>ELEC 306</td>
<td>Electromagnetic Fields and Devices</td>
</tr>
<tr>
<td>PHYS 312</td>
<td>Introduction to Quantum Physics II</td>
</tr>
<tr>
<td>or ELEC 361</td>
<td>Quantum Mechanics for Engineers</td>
</tr>
<tr>
<td>ELEC 242</td>
<td>Fundamentals of Electrical Engineering II</td>
</tr>
<tr>
<td>or ELEC 243</td>
<td>Introduction to Electronics</td>
</tr>
<tr>
<td>ELEC 305</td>
<td>Introduction to Physical Electronics</td>
</tr>
<tr>
<td>MATH 381</td>
<td>Introduction to Partial Differential Equations</td>
</tr>
<tr>
<td>or CAAM 336</td>
<td>Differential Equations in Science and Engineering</td>
</tr>
<tr>
<td>CHEM 121 and 122</td>
<td>General Chemistry (with lab)</td>
</tr>
<tr>
<td>or CHEM 151 and 152</td>
<td>Honors Chemistry (with lab)</td>
</tr>
</tbody>
</table>

### Additional courses for the BS in physics with general physics option

<table>
<thead>
<tr>
<th>Course Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>PHYS 302</td>
<td>Intermediate Electrodynamics</td>
</tr>
<tr>
<td>ELEC 242</td>
<td>Fundamentals of Electrical Engineering II</td>
</tr>
<tr>
<td>or ELEC 243</td>
<td>Introduction to Electronics</td>
</tr>
<tr>
<td>ELEC 305</td>
<td>Introduction to Physical Electronics</td>
</tr>
<tr>
<td>MATH 381</td>
<td>Introduction to Partial Differential Equations</td>
</tr>
<tr>
<td>or CAAM 336</td>
<td>Differential Equations in Science and Engineering</td>
</tr>
<tr>
<td>CHEM 121 and 122</td>
<td>General Chemistry (with lab)</td>
</tr>
<tr>
<td>or CHEM 151 and 152</td>
<td>Honors Chemistry (with lab)</td>
</tr>
</tbody>
</table>

### Additional courses for the BS in physics with biological physics option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 302</td>
<td>Intermediate Electrodynamics</td>
</tr>
</tbody>
</table>
PHYS 312 *Introduction to Quantum Physics II*
PHYS 355 *Introduction to Biological Physics*
BIOS 201 *Introductory Biology*
BIOS 211 *Introduction to Experimental Biosciences*
BIOS 301 *Biochemistry or BIOS 341 Cell Biology*
CHEM 121 and 122 *General Chemistry* (with lab) or CHEM 151 and 152 *Honors Chemistry* (with lab)
CHEM 211 *Organic Chemistry*
MATH 381 *Introduction to Partial Differential Equations* or CAAM 336 *Differential Equations in Science and Engineering*

**Additional courses for the BS in physics with computational physics option**
PHYS 302 *Intermediate Electrodynamics*

**Degree requirements for BS in Astrophysics**
PHYS 101 or 111 *Mechanics* (with lab)
PHYS 102 or 112 *Electricity and Magnetism* (with lab)
PHYS 201 *Waves and Optics*
PHYS 202 *Modern Physics*
PHYS 231 *Elementary Physics Laboratory II*
PHYS 301 *Intermediate Mechanics*
PHYS 402 *Intermediate Electrodynamics*
PHYS 311 *Introduction to Quantum Physics I*
PHYS 425 *Statistical and Thermal Physics*
PHYS 491 and PHYS 492 *Undergraduate Research*
PHYS 493 and PHYS 494 *Undergraduate Research Seminar*
(The undergraduate research course and seminar must be taken concurrently.)
ASTR 230 *Astronomy Laboratory*
ASTR 350 and ASTR 360 *Introduction to Astrophysics*

Two credits of ASTR 400 *Undergraduate Research Seminar*
Three courses from: ASTR 450 *Experimental Space Science*, ASTR 451 *Solar and Stellar Astrophysics*, ASTR 452 *Galaxies and Cosmology*, ASTR 470 *Solar System Physics*, PHYS 312 *Introduction to Quantum Physics II*, PHYS 480 *Introduction to Plasma Physics*
MATH 101/102 *Single Variable Calculus I and II*
MATH 211 *Ordinary Differential Equations and Linear Algebra*
MATH 212 *Multivariable Calculus*
(MATH 221/222 *Honors Calculus III and IV* may substitute for MATH 211/ MATH 212)
CAAM 336 *Differential Equations in Science and Engineering*
NSCI 230 *Computation in Natural Sciences* or CAAM 210 *Introduction to Engineering Computation*
CHEM 121 *General Chemistry*

**Degree requirements for BA in Physics**
PHYS 101 or 111 *Mechanics* (with lab)
PHYS 102 or 112 *Electricity and Magnetism* (with lab)
PHYS 201 *Waves and Optics*
PHYS 202 *Modern Physics*
PHYS 231 *Elementary Physics Laboratory II*
PHYS 301 *Intermediate Mechanics*
PHYS 302 *Intermediate Electrodynamics*
PHYS 311 *Introduction to Quantum Physics I*
PHYS 331 *Junior Physics Laboratory I*
PHYS 425 *Statistical and Thermal Physics*
One additional PHYS or ASTR course (3 credit hours) at 400 level
MATH 101 and 102 *Single Variable Calculus I and II*

MATH 211 *Ordinary Differential Equations and Linear Algebra*

MATH 212 *Multivariable Calculus*

### Degree requirements for BA in Astronomy

**PHYS 101 or 111** *Mechanics* (with lab)

**PHYS 102 or 112** *Electricity and Magnetism* (with lab)

**PHYS 201** *Waves and Optics*

**PHYS 202** *Modern Physics*

**PHYS 231** *Elementary Physics Laboratory II*

**PHYS 301** *Intermediate Mechanics*

**PHYS 302** *Intermediate Electrodynamics*

**PHYS 425** *Statistical and Thermal Physics* or

**CHEM 310** *Physical Chemistry*

**ASTR 230** *Astronomy Laboratory*

**ASTR 350 and ASTR 360** *Introduction to Astrophysics*

Two credits of **ASTR 400** *Undergraduate Research Seminar*

### Degree requirements for BS in Chemical Physics

**PHYS 101 or 111** *Mechanics* (with lab)

**PHYS 102 or 112** *Electricity and Magnetism* (with lab)

**PHYS 201** *Waves and Optics*

**PHYS 202** *Modern Physics*

**PHYS 231** *Elementary Physics Laboratory II*

**PHYS 301** *Intermediate Mechanics*

**PHYS 302** *Intermediate Electrodynamics*

**PHYS 311** *Introduction to Quantum Physics I*

**CHEM 121/122** *General Chemistry* or **CHEM 151/152** *Honors Chemistry* (with lab)

**CHEM 211** *Organic Chemistry* or **CHEM 251** *Honors Organic Chemistry*

**CHEM 310** *Physical Chemistry*

**CHEM 360** *Inorganic Chemistry*

One of: **PHYS 312** *Introduction to Quantum Physics II*, **CHEM 415** *Chemical Kinetics and Dynamics*, or **CHEM 430** *Quantum Chemistry*

One of: **CHEM 420** *Classical and Statistical Thermodynamics*, or **PHYS 425** *Statistical and Thermal Physics*

Six credit hours from: **CHEM 215** *Organic Chemistry Laboratory*, **CHEM 351 or 352** *Introductory Module in Experimental Chemistry*, **CHEM 372–395**, **CHEM 435** *Methods of Computational Quantum Chemistry*, and **PHYS 331 or 332** *Junior Physics Laboratory I or II*; up to two hours of **CHEM 491 Research for Undergraduates** or **PHYS 491/492 Undergraduate Research** may be counted toward this requirement.

**MATH 101/102** *Single Variable Calculus I and II*

**MATH 211** *Ordinary Differential Equations and Linear Algebra*

**MATH 212** *Multivariable Calculus*

(MATH 221/222 *Honors Calculus III and IV* may substitute for MATH 211/212)

One of: **ASTR 450** *Experimental Space Science*, **ASTR 451** *Solar and Stellar Astrophysics*, **ASTR 452** *Galaxies and Cosmology*, **ASTR 470** *Solar System Physics*, **PHYS 480** *Introduction to Plasma Physics*

**MATH 101/102** *Single Variable Calculus I and II*

**MATH 211** *Ordinary Differential Equations and Linear Algebra*

**MATH 212** *Multivariable Calculus*

(MATH 221/222 *Honors Calculus III and IV* may substitute for MATH 211/212)

One of: **PHYS 311** *Introduction to Quantum Physics I*, **CHEM 350** *Physical Chemistry*, or **CHEM 360** *Inorganic Chemistry*

**CHEM 310** *Physical Chemistry*

**CHEM 420** *Classical and Statistical Thermodynamics*, or **PHYS 425** *Statistical and Thermal Physics*

### Advanced Degrees

For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4). More detailed information on courses and requirements is available from the Department of Physics and Astronomy.
The master of science teaching requires 30 credit hours of approved course work. The master of science is a research degree, normally undertaken as the first stage of doctoral study. The MS requires at least 30 credit hours of approved graduate-level studies, including a research project performed under the direction of a departmental faculty member. The student must defend the results of the project in a public oral examination and submit an original thesis to the Office of Graduate and Postdoctoral studies.

The nonthesis master of science is a research degree, normally undertaken as the first stage of doctoral study. The MS requires at least 30 credit hours of approved graduate-level studies, including a research project performed under the direction of a departmental faculty member. The student must defend the results of the project in a public oral examination and submit an article, with the student as principal author, to a peer-reviewed journal.

To be eligible for the PhD degree, graduate students must demonstrate to the department their ability to engage in advanced research. This normally is accomplished by successfully completing the work for the MS. Students also must complete 60 credit hours of approved graduate-level study at Rice and produce a research thesis under the direction of a departmental faculty member. At least two years of graduate study are required for the PhD.

**See ASTR and PHYS in the Courses of Instruction section.**
**Policy Studies**

**The School of Social Sciences**

**Director**
Donald Ostdiek

**Degree Offered: BA**

This interdisciplinary major focuses on policy issues that are of public interest. Students in policy studies evaluate and analyze both the determinants and the effects of policy decisions, gaining an understanding of the policy-making process addresses theoretical issues as well as applied and prescriptive policy questions.

Students may take policy studies *only as a second major*. It complements majors in any university department. For instance, engineering or science majors who are contemplating careers in business or government can investigate how technical innovations or regulations are adopted and implemented as matters of public policy. Humanities majors can explore career options where language skills are particularly valuable.

Students are encouraged to investigate research opportunities with Rice faculty. Students also may elect to participate in the Washington Semester Program at American University, which includes both course work and an internship in the federal government. Students may also participate in the Rice Policy Studies Abroad program in London for course credit, which includes an internship experience in London. See the Policy Studies director and Web site for more information.

**Degree Requirements for BA in Policy Studies**

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). Students may take the policy studies major only as a second major (their first major cannot also be in an interdepartmental program). The major contains 11 courses divided into the following elements: a basic curriculum, an area curriculum, and a capstone requirement.

The policy studies basic curriculum introduces students to the fundamental concepts and tools needed to understand and study policy, regardless of the policy area on which they choose to focus. The four courses ensure that all policy studies majors have a common professional vocabulary and conceptual frame of reference. The policy studies area curriculum provides specialized training that builds on students' work in the basic curriculum.

Students also are required to take six courses from one of the following areas of specialization or in an area approved by the Policy Studies director:

- Environmental policy
- Government policy and management
- Healthcare management
- International affairs
- Law and justice
- Business policy and management
- Urban and social change
- Energy Policy Studies
In consultation with the Policy Studies director, each student also must complete an approved capstone requirement. This requirement may be met by participating in the Rice Policy Studies Abroad Program in London, the Policy Studies Research Seminar (SOSC 421), a School of Social Sciences gateway experience, or another approved internship or research opportunity.

**Four Basic Curriculum Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 211 or 212</td>
<td>Principles of Economics I or II</td>
</tr>
<tr>
<td>POLI 338/POST 301</td>
<td>Policy Analysis</td>
</tr>
<tr>
<td>POST 300</td>
<td>Public Policy Management and Advocacy</td>
</tr>
</tbody>
</table>

One advanced analysis or methods course approved by the Policy Studies director

**Six Area Curriculum Courses**

Six courses from one of the following seven groups (specific course substitutions may be approved by the Policy Studies director)

1. **Environmental Policy (Choose six)**

   - ANTH 468 Palaeoclimate and Human Response
   - ARCH 313 Case Studies in Sustainable Design
   - BIOS 323 Conservation Biology
   - BIOS 325 Ecology
   - CEVE 201 Urban and Environmental Systems
   - CEVE 306 Global Environmental Law and Sustainable Development
   - CEVE 406 Introduction to Environmental Law
   - ECON 480 Environmental Economics
   - ENGL 368 Literature and the Environment
   - ENST 302 Environmental Issues: Rice into the Future
   - PHYS 357 Atmosphere, Weather, and Climate
   - POLI 331 Environmental Politics and Policy
   - POLI 336 Politics of Regulation
   - SOCI 367 Environmental Sociology

2. **Government Policy and Management (Choose six)**

   - ANTH 344 City/Culture
   - CEVE 406 Introduction to Environmental Law
   - ECON 436 Regulation
   - ECON 438 Business, Law, and Economics
   - ECON 461 Urban Economics
   - ECON 480 Environmental Economics
   - ECON 483 Public Finance: Tax Policy
   - HIST 468 Women and the Welfare State
   - POLI 300 Federalism and Intergovernmental Politics
   - POLI 301 State Politics
   - POLI 330 Minority Politics
   - POLI 331 Environmental Politics and Policy
   - POLI 332/332 Urban Politics
   - POLI 335 Political Environment of Business
   - POLI 436 Politics of Regulation
   - SOCI 308 Houston: The Sociology of a City
   - SOCI 335 Political Sociology
   - SOCI 449 Immigration and Public Health
   - SOSC 330 Healthcare Reform in the 50 States
   - SOSC 430 The Shaping of Health Policy

3. **Healthcare Policy and Management (Choose six)**

   - ANTH 381 Medical Anthropology
   - ANTH 386 Medical Anthropology of Food and Health
   - ANTH 388 Life Cycle: A Biocultural View
   - HEAL 212 Consumer Health and the Media
   - HEAL 350 Understanding Cancer
   - HEAL 407 Epidemiology
   - HEAL 410 Program Development in Health Education
   - PHIL 315 Ethics, Medicine, and Public Policy
   - SOCI 334 Sociology of the Family
   - SOCI 345 Introduction to Medical Sociology
   - SOCI 449 Immigration and Public Health
   - SOSC 330 Healthcare Reform in the 50 States
   - SOSC 420 Healthcare: Competition and Managed Care
   - SOSC 430 The Shaping of Health Policy
   - SPAN 307/308 The Language of Healthcare

4. **International Affairs (Choose six)**

   - ECON 420 International Trade
   - ECON 421 International Finance
   - ECON 451 Political Economy of Latin America
HIST 386 Recent U.S. Foreign Policy
POLI 354 Latin American Politics
POLI 355 Government and Politics of the Middle East
POLI 356 Politics of Latin American Economic Development
POLI 360 West European Democracies
POLI 372 American Foreign Policy
POLI 373 International Conflict
POLI 378 The Politics of American National Security Policy
POLI 462 Comparative Public Policy
POLI 464 Political Economy of Developing Nations

5. Law and Justice (Choose six)
ANTH 326 Anthropology of Law
ANTH 419 Law and Society
CEVE 406 Introduction to Environmental Law
ECON 438 Business, Law, and Economics
ECON 439 Torts, Property, and Contracts
HIST 398 Topics in Legal History
PHIL 307 Social and Political Philosophy
PHIL 316 Philosophy of Law
POLI 321 American Constitutional Law
SOCI 321 Criminology

6. Business Policy and Management (Choose six)
ACCO 305 Introduction to Accounting
ECON 355 Financial Markets
ECON 370 Microeconomic Theory
ECON 375 Macroeconomic Theory
ECON 415 Labor Economics
ECON 420 International Trade
ECON 421 International Finance
ECON 435 Industrial Organization
ECON 436 Regulation
ECON 445 Managerial Economics
ECON 448 Corporation Finance
PSYC 231 Industrial and Organizational Psychology
POLI 335 Political Environment of Business
POLI 336 Politics of Regulation
POLI 464 Political Economy of Developing Nations

7. Urban and Social Change (Choose six)
ANTH 344 City/Culture
ARCH 311 Houston Architecture
ARCH 313 Case Studies in Sustainable Design
ARCH 346 Architecture and the City II
ARCH 455 Housing and Urban Programs: Issues in Policy
ECON 461 Urban Economics
ECON 480 Environmental Economics
PHIL 307 Social and Political Philosophy
POLI 332 Urban Politics
POLI 438 Race and Public Policy
POLI 441 Common Property Resources
SOCI 301 Social Inequality
SOCI 308 Houston: The Sociology of a City
SOCI 309 Race and Ethnic Relations
SOCI 310 Urban Sociology
SOCI 313 Demography

8. Energy Policy Studies (six courses, all students must take ECON 437 and POST 401, at least two more courses from the Core Energy Courses, and up to two courses from the Energy Elective Courses.)
POST 401 Energy Policy
POST 410 Middle East Politics and Energy
ESCI 415 Economic Geology–Petroleum
ECON 437 Energy Economics
CEVE 307 Energy and the Environment
ESCI 107 Oceans and Global Change

Energy Elective Courses
CEVE 306 Global Environmental Law and Sustainable Development
CEVE 406 Introduction to Environmental Law
CHBE 281 Engineering Sustainable Communities
ECON 348/POLI 348 *Organizational Design*

ECON 447 *Advanced Topics in Energy Economics*

ECON 448 *Corporate Finance*

ECON 451 *Political Economy of Latin America*

ECON 480 *Environmental Economics*

ENST 331/POLI 331 *Environmental Policy*

ESCI 416 *Economic Geology—Mineral Deposits*

ESCI 417 *Petroleum Industry Economics and Management*

POLI 211 *Introduction to International Relations*

POLI 336 *Politics of Regulation*

POLI 355 *Government and Politics of the Middle East*

POLI 373 *International Conflict*

POLI 441 *Common Property Resources*

HIST 367 *America and the Middle East*

HIST 378 *The Arab World in the 20th Century, 1918–present*

RELI 356 *Major Issues in Contemporary Islam*
The School of Social Sciences

Degrees Offered: BA, MA, PhD

Students majoring in political science are encouraged to achieve both a broad understanding of the field and a specialized knowledge of one or more aspects of political science, including American politics and comparative politics and politics and international relations. Graduate study is grounded in the areas of American politics, comparative politics, and international relations.

Degree Requirements for BA in Political Science

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). Students majoring in political science must complete 30 semester hours (10 courses) in the field of political science, plus six hours (two courses) of upper-level work in any of the following fields: anthropology, economics, history, philosophy, psychology, or sociology.

Political science degree requirements are as follows:

- At least one course in each of the following fields: American politics, comparative politics, international relations, theory and methods.
- At least two of the four introductory courses.
- A concentration of at least four courses in one of the following fields: American politics, comparative politics, and international relations. These four courses must include the introductory course and a seminar.
- A statistics course offered by the Department of Political Science.
- Two seminars, at the 400 or 500 level, with different instructors.
- POLI 110 and 112 do not satisfy any requirement for the political science major.
**Introductory Courses**—POLI 209 *Introduction to Constitutionalism and Modern Political Thought*, POLI 210 *American Government and Politics*, POLI 211 *International Relations*, and POLI 212 *Introduction to Comparative Politics* constitute the introductory courses in political science. Students should note, however, that POLI 210 is the course that meets the Texas state licensing requirements in political science for teachers.

**Directed Readings Courses**—Directed readings courses are intended for students who have completed a substantial number of political science courses and who seek to explore a subject not covered in regular courses. They are available only if an appropriate faculty member agrees to supervise. The faculty member supervising a directed readings course must have a full-time appointment, and a student may not take more than one readings course from him or her. Students should submit a brief, one-page description of the work to be conducted in the readings course (including the name of the faculty supervisor) to the department director of undergraduate studies no later than two weeks into the semester in which they intend to take the course. Readings courses do not count toward the department’s distribution requirement.

**Honors Program**—Admission to the honors program requires the approval of the department director of undergraduate studies. During the first semester of the two-semester program, students take a readings course that provides them with a basis for drawing up a thesis prospectus. During the second semester, students write their honors thesis, which also must meet with committee approval. Students may not combine the two honors courses into one semester. Those who successfully complete the honors program may substitute it for one of the seminars required for the major. Failure to complete the second semester of the honors program will result in loss of credit for the first semester of the honors program.

Alternatively, students may earn honors in political science by successfully completing the Rice University Honors Program (RUSP), HONS 470/471. In addition to successfully completing this program, the student must complete a research project in political science, and the student must be supervised by a full-time faculty member in the political science department. See also Honors Programs (Undergraduate Students section, pages 14–15).

**Degree Requirements for MA and PhD in Political Science**

For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4). Students in the PhD program must complete 42 semester hours in advanced courses or seminars before candidacy and conclude the degree program with the oral presentation of a dissertation displaying original research. Normally, students take the specified core courses in two of the three general fields of American politics, comparative politics, and international relations, completing additional course work and comprehensive examinations as well. Before taking the comprehensive examinations, students must:

- Complete courses in statistical analysis
- Satisfy the language or skill requirement in their major field
- Complete all course requirements

Students select specific courses for graduate study in consultation with the faculty advisor.

The master of arts degree can be obtained with 36 semester hours of course work, all of which must be taken at the graduate level (400 level or above),
and the completion of two research papers in seminars taken over the course of study. A minimum G.P.A. of 3.0 is required for awarding the MA.

The political science department requires that not more than three years elapse between the time the student is admitted to graduate study and the completion of the MA degree, unless an extension is approved by the department graduate committee.

**See POLI in the Courses of Instruction section.**
Poverty, Justice, and Human Capabilities

The School of Humanities, The School of Social Sciences, and The George R. Brown School of Engineering

**Director**
Diana Strassmann

**Undergraduate Advisors**
Elias Bongmba
Michael Emerson
Elora Shehabuddin
Diana Strassmann
Don Ostdiek

**Steering Committee**
Elias Bongmba
Michael Emerson
Helena Michie
Don Ostdiek
Elora Shehabuddin
Diana Strassmann

**Degrees Offered: None**

The Program in Poverty, Justice, and Human Capabilities (PJHC), which is housed in the Center for the Study of Women, Gender, and Sexuality, provides students with a multifaceted understanding of human well-being, both in the U.S. and internationally. The PJHC program has collaborated with a number of departments to offer Rice undergraduate students a minor in poverty, justice, and human capabilities. This unique interdisciplinary minor emphasizes a “capabilities approach,” which considers what people are able to do and be—for example, live to old age and engage in economic and political activities—rather than strictly what they have or don’t have. The program also acknowledges the central importance of a variety of additional influences on well-being beyond income, such as gender, racial and ethnic disparities, health status, education, human rights, political freedoms, and material necessities like food and shelter.

A key goal of the PJHC program is to enrich students’ understanding of poverty and inequality, so that, regardless of their choice of occupation, they will maintain a longstanding commitment to enhancing the well-being of all people. More generally, the program aims to train Rice students to be future leaders in solving global problems in human well-being.

The PJHC minor combines high-caliber undergraduate courses with internship experiences for students to work in the summer or as part of a study abroad program with agencies that help disadvantaged communities and people. The students are placed with organizations where they work directly with clients and gain experiential knowledge that broadens their perspective on human lives and capabilities. Through these academic and experiential learning opportunities, students explore a deeper understanding of the structural factors underlying poverty and human well-being and potential policy solutions. Furthermore, the program aims to promote dialogue among all disciplines about how to address issues of poverty alleviation and human well-being with a sophisticated understanding of the challenges and sound strategies for moving forward.

**Requirements for Minoring in PJHC**

Students must complete three required core courses, three elective courses, and participate in either a PJHC summer internship or in a study abroad service learning experience that has been explicitly approved for the minor.
**Required Courses**

- HUMA 280/ SOCI 280 *Introduction to Poverty, Justice, and Capabilities*
- SWGS 422 *Gender and Global Economic Justice* or SWGS 250/POLI 250 *International Political Economy of Gender*
- SOCI 470 *Inequality and Urban Life* or POLI 338 *Policy Analysis*

After taking HUMA 280/SOCI 280 and at least one approved elective or one of the required SWGS gender-related courses, students are eligible to apply for the minor and to participate in a service learning internship program approved for the minor. Although they do not receive academic credit for the internship, they must undertake an approved internship program as part of the minor.

Students may choose either SOCI 470 *Inequality and Urban Life* or POLI 338 *Policy Analysis* as the final required capstone to the minor. The capstone course provides students with an opportunity to apply the knowledge gained in other courses and the internship experience to develop a substantive paper or project on a real-world policy problem. Students must develop their capstone projects on a topic directly relevant to the themes and concerns of the PJHC minor and must get advance approval for their topics from one of the PJHC minor advisors, as represented in a detailed prospectus they will be required to submit for such approval.

**Elective Courses**

Students must choose three electives, including at least one course from the PJHC non-Western elective list, one course from the Race and Ethnicity elective list, and a third from a broader list that also includes the non-Western and Race and Ethnicity lists. A complete list of the approved elective courses may be found at www.rice.edu/pjhc.

**Admission**

All PJHC minor courses are open to all Rice students, including those not pursuing the PJHC minor. The key core courses will be offered each year. The introductory course, HUMA 280/SOCI 280 will be capped at 28 students, with preference given to students who plan to complete the PJHC minor. Students will be required to seek instructor approval through the submission of a brief questionnaire.
DEPARTMENT FACULTY

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TBN

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Roberta M. Diddel

VISITING SCHOLARS
Yvonne Kao
Mary R. Newsome

RESEARCH FACULTY

POSTDOCTORAL RESEARCH ASSOCIATE
L. Robert Slevc

RESEARCH SCIENTIST
A. Cris Hamilton
Degrees Offered: BA, MA, PhD

The undergraduate program offers the core preparation recommended by the nation’s leading graduate schools of psychology, with advanced courses and research opportunities to fit individual needs. Programs of study may be structured around prospective careers in medicine, law, business, and education as well as in psychology.

Program emphasis in graduate study is on doctoral training. An important feature of our doctoral program is its strong research orientation. Students are expected to spend a good portion of their graduate years actively engaged in research and are expected to acquire a high level of research competence. Faculty research interests and areas of specialization for graduate students include: cognitive psychology (basic mental activities as perceiving, attending, remembering, learning, judging, verbalizing, and imagining), systems and cognitive neuroscience (understanding the relationship between the human brain and higher forms of behavior), human factors/human–computer interaction (the scientific discipline concerned with the understanding of interactions among humans and other elements of a system and the application of theories, principles, data and other methods of design in order to optimize human well-being and overall system performance), industrial and organizational psychology (human behavior in organizational and work situations), perception (psychology of sensory and perceptual systems in humans and animals), social/personality (examines both the way people think about, influence, and interact with others as well as individual differences in people that accentuate such cognitions and behaviors), and training (broad interdisciplinary area drawing on cognitive psychology, industrial/organizational psychology, and educational psychology).

Degree Requirements for BA in Psychology

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). Students majoring in psychology must complete 29 semester hours in departmental courses, including the following required courses.

Core Courses

PSYC 101 Introduction to Psychology
PSYC 202 Introduction to Social Psychology
PSYC 203 Introduction to Cognitive Psychology
PSYC 339 Statistical Methods—Psychology
PSYC 340 Research Methods (no substitutions or transfer credits allowed for PSYC 339 or 340)

At least one course from each block*

Block 1

PSYC 308 Memory
PSYC 309 Psychology of Language
PSYC 350 Psychology of Learning
PSYC 351 Psychology of Perception
PSYC 360 Thinking
PSYC 362 Biopsychology
PSYC 375 Neuropsychology of Language and Memory

Block 2

PSYC 321 Developmental Psychology
PSYC 329 Psychological Testing
PSYC 330 Personality Theory
PSYC 331 The Psychology of Gender
PSYC 332 Abnormal Behavior
PSYC 352 The Psychology of Emotion and Motivation

*No substitutions or transfer credits allowed to fulfill Block 1 and 2 requirements. Once enrolled at Rice, students must have prior approval from the psychology department to transfer courses taken at another college or university.

Students are encouraged to take PSYC 339 and PSYC 340 as soon as possible, preferably by the end of their sophomore year.
Honors Program—Qualified students may apply to the honors program during preregistration in the spring semester of their junior year. A written proposal for the project must be submitted by the end of the second week of classes in fall of the senior year, and the faculty will decide on final admission to the honors program by the end of the fourth week of classes. Admission to the honors program requires a psychology GPA of 3.7 and an overall GPA of 3.5, completion of PSYC 339, and completion or concurrent enrollment in PSYC 340. To graduate with departmental honors, students must complete the requirements for the psychology major, a written honors thesis approved by a faculty committee, and other requirements as determined by their honors committee (see Honors Program, Undergraduate Students section, pages 14–15). Detailed information about the honors program is available from the instructor of the course or the departmental office.

Degree Requirements for MA and PhD in Psychology
Students must complete an admission-to-candidacy procedure that should establish their expertise in their chosen specialty. For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4). For both MA and PhD degrees, students must complete a research thesis, including a public oral defense, and accumulate 30 semester hours for the MA and 60 hours for the PhD. Required coursework is determined by the student's research area (cognitive, cognitive neuroscience, human factors/human–computer interaction, industrial organizational, perception, or training.) Competence in a foreign language is not required.

See PSYC in the Courses of Instruction section.
Religious Studies

The School of Humanities

Degrees Offered: BA, PhD

The undergraduate major includes courses in methodology (textual, historical, normative, and sociocultural approaches to the study of religion) and religious traditions (African religions, Buddhism, Christianity, comparative religions, Hinduism, Islam, and Judaism). For research degrees in the graduate program, see below. Within these clearly defined fields, students acquire a broad knowledge of religious studies with enough flexibility for interdisciplinary pursuits.

Degree Requirements for BA in Religious Studies

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). In addition, students also must satisfy the distribution requirements and complete no fewer than 60 semester hours outside the departmental requirements for a program totaling at least 120 semester hours. See Distribution Requirements (Undergraduate Students section, pages 4–5) and Majors (Undergraduate Students section, pages 5–6).

Students majoring or double-majoring in religious studies must complete:

- 30 hours for majors
- 24 hours for double majors
- 18 hours must be selected at 300-level or above
- No more than two courses (six hours) may be transferred from outside the department

The following requirements must be met. For details about the categories of offerings, the departmental list should be consulted. It is updated every semester and can be obtained from the undergraduate advisor.

- Reli 303 The Craft of Religious Studies
- One course from two of these three categories of offerings: textual and historical studies; philosophy, ethics, theology, and contemplative studies; and religion and the arts and science
- One course taken in the senior year from the category of offerings 400-level Senior Seminar
• Five elective courses for majors; three elective courses for double majors
• To ensure coverage of religious traditions, two courses selected in the major must cover two of three religious traditions (Abrahamic, Asian, African, and African-American)

**Honors Program.** Qualified undergraduates may choose the option of writing a senior thesis. To complete this thesis, the student must elect RELI 400 *Honors in Religious Studies*. Students must have at minimum 3.2 GPA in their religious studies courses before undertaking thesis work, and they must obtain the permission of a faculty advisor who will supervise the project during the senior year.

**Degree Requirements for PhD in Religious Studies**

The graduate program accepts a limited number of qualified students. A distinguished undergraduate record and high scores on the Graduate Record Examination (GRE) are essential, and an advanced degree in the humanities is desirable. For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4). Students admitted into the program normally will receive financial assistance in the form of a tuition waiver and a stipend. As part of their training and in return for their stipends, students in their second year and beyond are expected to perform a minimum amount of services in return for their stipend by assisting the department as needed.

The PhD in religious studies is normally a five-year program. Course requirements for students without a relevant MA or MDiv (based on three courses per semester):

• 18 courses (54 hours required); 36 hours for students with a relevant MA or MDiv
• Two department seminars to be taken in each of the first two years
• Passing grades on reading examinations in two secondary research languages approved by the faculty before taking qualifying exams.
• Passing grades in four qualifying examinations
• Oral discussion of dissertation proposal
• Satisfactory completion of dissertation and oral defense

**Reading Lists**—Reading lists are available for all Qualifying Exams. Students are expected to familiarize themselves with this material enough that they draw on it on their exams and the dissertation itself. The graduate seminar is, in part, an introduction to areas of the reading list and to the techniques for engaging in deep, independent reading.

**Professional Development**

Opportunities may be available to teach undergraduate courses in the department or in local colleges and universities. Limited funds also are available for students to attend conferences to present their research. The department encourages these and other efforts to prepare students for academic careers.

See RELI in the Courses of Instruction section.
Sociology

The School of Social Sciences

Degree Offered: BA

This undergraduate major fosters an analytic approach to the study of human societies, whether as a preparation for graduate work in sociology and related fields or as the foundation for a variety of occupations. It also is an important component of a liberal arts education and, as such, can serve as effective preparation for professions like law or medicine. The program provides students with considerable latitude in pursuing personal interests while ensuring familiarity with basic theoretical approaches and research methods.

Degree Requirements for the BA in Sociology

For general university requirements, see Graduation Requirements (Undergraduate Student section, pages 2–5). Students majoring in sociology must complete at least 33 semester hours (11 courses) in sociology. Requirements for the major include the following:

SOC 101 Introduction to Sociology
SOC 298 Social Statistics
One of the following:
SOC 381 Research Methods
SOC 384 The Craft of Sociology
At least one theory course, such as:
SOC 380 Social Theory
SOC 383 Feminist Social Thought
Any other sociology courses to reach a total of 11

Sociology majors are not required to take a foreign language, but those planning graduate study should be competent in at least one such language. Some sociology courses listed in the Courses of Instruction section may not be offered every year, and courses among the regular offerings are occasionally added or dropped. Students are responsible for making sure they satisfy all the requirements for their degree. One of the sociology faculty, preferably the department advisor, should sign each major’s registration.
Honors Program
The Honors Program is designed to provide sociology majors with the opportunity to sharpen their research skills and deepen their understanding of the discipline through a two- to three-semester program of directed independent research and writing. The program also offers the opportunity for formal recognition, through Departmental Honors, of those undergraduates who have demonstrated unusual competence in sociology by successfully completing a sustained independent research project.

Eligibility—To be eligible for the program, students must have taken at least four sociology courses beyond SOCI 101 Introduction to Sociology, including SOCI 381 Research Methods. If their project requires statistical analysis, students also should complete SOCI 382 Social Statistics before beginning their research. An A- average in all sociology courses taken also is required.

Application Process—During the fall and early spring semester of their junior year, students are invited to consult with members of the faculty about a potential thesis topic. All students must have at least one faculty member in the sociology department approve their topic and agree to serve as their thesis committee chair. Once a thesis supervisor has been identified, the student must submit a written description of their proposed research project to the departmental undergraduate advisor, Dr. Bridget Gorman. The proposal should be two to three pages in length (double-spaced) and is due by April 1st of their junior year.

The sociology faculty will vote on the merits of the proposed thesis project at their monthly faculty meeting in mid-April. If approved, the student may begin work on the thesis immediately, or at a start time agreed on with their thesis supervisor (including summer semester, if desired).

Program—Students in the Honors Program register for two successive semesters in Directed Honors Research (SOCI 492 and 493). An honors thesis typically involves much discussion over both semesters between the student and their primary advisor. Students should meet early in the process to agree on ground rules for the project, to choose the other members of the thesis committee (made up of two additional faculty members, sometimes from other departments, who serve as readers and ad-hoc advisors), and to set up a schedule for discussions and submission of written work. It is the department's experience that students who work alone without much consultation with faculty are less likely to succeed in their project than students who maintain close contact with their advisor and the department. Students also are encouraged to include other members of the committee in discussion of the thesis, especially as the project nears completion, so that their feedback can be incorporated before the final draft of the project is submitted.

Students normally begin by conducting a thorough review of the relevant literature, formulating hypotheses that grow out of the literature review, and proposing a research design that clearly describes how the data for the project are to be collected and analyzed. The research itself is usually carried out in the fall semester of the senior year (and sometimes in the summer following the junior year), and is analyzed, written up, and defended as a completed Honor's Thesis during the spring semester of the senior year. (Students are encouraged to examine several previously written theses, which are available from Patsy Garcia, the sociology department administrator.)

In addition to being read by the student's primary advisor, the thesis also is read and evaluated by the other faculty members, sometimes from other departments, who make up the student's thesis committee.
Program Timeline—A first draft of thesis must be turned in to the committee members no later than February 1 of the student’s senior year.

After receiving feedback on the project, the student has until the last Monday in March to submit a final draft of the senior thesis to their committee.

A short presentation (10–15 minutes) of the thesis project must be given to the full sociology faculty by mid-April. Faculty will vote on whether to grant Departmental Honors to the student at the conclusion of their presentation.

Course Requirements for a Minor in Sociology

Six classes total (18 credits)

Required Classes:
Introduction to Sociology
One methods OR theory course

Elective Classes:
Four electives (12 credits), including at least one 400-level class.

See SOCI in the Courses of Instruction section.
SPORT MANAGEMENT

THE SCHOOL OF HUMANITIES

DIRECTOR AND PROFESSOR IN THE PRACTICE
Clark D. Haptonstall
ASSOCIATE PROFESSOR
James G. Disch

LECTURERS
Tom Stallings
Jason Sosa
Patrick Thornton

DEGREES OFFERED: BA

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). For the BA degree, students majoring in sport management must complete a minimum of 45 credit hours.

Core Requirements (27 hours)
SMGT 260 Introduction to Sport Management
SMGT 276 Sport Management Practicum
SMGT 360 Sales and Revenue Generation in Sport
SMGT 362 Sport Marketing
SMGT 364 Sport Law
SMGT 366 Event and Facility Management
SMGT 376 Sport Management Internship I
SMGT 377 Sport Management Internship II
SMGT 466 Media Relations

Research Requirement (three hours)
KINE 319 Introduction to Measurement and Statistics
SMGT 405 Research in the Sport Management Industry

Verbal Communication Requirement (three hours)
HUMA 201 Public Speaking
HUMA 308 Business and Professional Speaking
HUMA 309 Argumentation and Debate

Written Communication Requirement (three hours)
LEAD 321 Leadership Communication
HUMA 250 Writing for Print Media

Electives (nine hours)
BUSI 296 Business Communications
BUSI 305 Financial Accounting
BUSI 310 Leading People in Organizations
BUSI 343 Financial Management
BUSI 380 Marketing
BUSI 471 Strategic Management
ECON 211 Principles of Economics
ECON 370 Microeconomic Theory
MANA 404 Management Communications
STAT 280 Elementary Applied Statistics

DESCRIPTION

Sport Management is an interdisciplinary field of study that draws from a
wide range of academic disciplines, including business, management, law, and communication. Each discipline can be applied to the business enterprise of amateur and professional sport, as well as the management of highly effective teams in sport, corporate America, or other management related professions. While public and private sector sport operation is the topic of a large segment of the curriculum, the thoroughly interdisciplinary emphasis of the sport management major aims to educate students in the skills and theory necessary to assume leadership roles both in and out of sport.

Career preparation for leadership and entrepreneurial positions is the ultimate goal of the sport management major at Rice. Students will acquire a solid academic and practical foundation and thus will be competitive for opportunities that include entering the sport business industry or applying to the country’s best law and business schools.

Students will complete a minimum of one internship prior to graduation, often with one of the professional teams in Houston (Rockets, Astros, Texans, Dynamo, Comets, and Aeros). Students also will receive networking and out-of-class developmental training, as these play a significant role in obtaining high-profile positions in collegiate and professional sports.

Rice is one of a very small number of universities that has received “program approval status” from the North American Society of Sport Management. This is the highest level of academic achievement available in the field.

Students are encouraged to go to www.sport.rice.edu for the latest information about the major.

See SMGT in the Courses of Instruction section.
Statistics

The George R. Brown School of Engineering

Chair
Katherine B. Ensor

Professors
Bryan W. Brown (joint appointment: Economics)
Dennis Cox
Mahmoud El-Gamal (joint appointment: Economics)
Katherine B. Ensor
Rudy Guerra
Don H. Johnson (joint appointment: Electrical and Computer Engineering)
Marek Kimmel
Javier Rojo
David W. Scott
Robin Sickles (joint appointment: Economics)
James R. Thompson
Marina Vannucci
Edward E. Williams (joint appointment: Jones Graduate School of Management)
Rick K. Wilson (joint appointment: Political Science)

Associate Professors
David M. Lane (joint appointment: Psychology)
Barbara Ostdiek (joint appointment: Jones Graduate School of Management)

Assistant Professor
Hadley Wickham

Adjunct Professors
Christopher I. Amos
E. Neely Atkinson
Donald A. Berry
Barry W. Brown
Kim-Anh Do
Richard Heydorn
Valen Johnson
Suzanne Leal
J. Jack Lee
Peter Müller
Gary Rosner
Stuart O. Zimmerman

Adjunct Associate Professors
Keith A. Baggerly
Scott B. Cantor
Joaquin Diaz-Saiz
Yu Shen
Sanjay Shete
Ya-Chen Shih

Adjunct Assistant Professors
Olga Y. Gorlova
Xuelin Huang
Yuan Ji
Chad A. Shaw

Lecturers
L. Scott Baggett
John A. Dobelman
Loren Raun

Faculty Fellow
Janet Siefert

Degrees Offered: BA, MStat, MA, PhD

Course work in statistics acquaints students with the role played in the modern world by probabilistic and statistical ideas and methods. Students grow familiar with both the theory and the application of techniques in common use as they are trained in statistical research. The flexibility of the undergraduate program allows students to concentrate on theoretical or applied training, or they may link their studies in statistics to work in other related departments (see majors in economics, education, electrical and computer engineering, computational and applied mathematics, managerial studies, mathematics, political science, and psychology). Graduate study has concentrations in applied probability, bioinformatics, biomathematics, biostatistics, computational finance, data analysis, density estimation, epidemiology, image processing, model building, quality control, statistical computing, spatical processes, stochastic processes,
and time series analysis. A joint MBA/master of statistics degree also is available in conjunction with the Jesse H. Jones Graduate School of Management.

**Degree Requirements for BA in Statistics**

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5). The degree requirements in statistics are:

- MATH 101/102 *Single Variable Calculus I and II*
- MATH 211 *Ordinary Differential Equations and Linear Algebra*
- CAAM 210 or 211 *Introduction to Engineering Computation*
- STAT 310 *Probability and Statistics*
- STAT 405 *Statistical Computing and Graphics*
- STAT 410 *Introduction to Statistical Computing and Regression*
- STAT 450 *Statistical Design in Practice*
- STAT 305, STAT 312 and STAT 331 may not count as electives; however, if a student takes STAT 305 plus either STAT 312 or STAT 331 he/she may substitute both courses for STAT 310.

Mathematically oriented students should also take MATH 212 *Multivariable Calculus* and MATH 355 *Linear Algebra* (or CAAM 335 *Matrix Analysis*).

The department offers a minor in computational finance jointly with the economics department (see Financial Computation and Modeling minor).

**Degree Requirements for MStat, MA, and PhD in Statistics**

For general university requirements, see Graduate Degrees (Graduate Students section, pages 3–4). Admissions applications should include scores on the Graduate Record Examination (GRE) in the quantitative, verbal, and analytical tests. Financial support is available for well-qualified doctoral students. Course work for all degree programs should be at the 400 level or above, although two approved 300-level courses may be accepted.

**Master’s Programs**—Candidates for the nonthesis MStat degree must complete 30 semester hours of approved course work. Candidates for the MA degree in statistics must complete 30 semester hours of approved course work as well as one of the following: (1) complete an original thesis and defend it in a public oral examination; or (2) perform satisfactorily on the second-year PhD comprehensive examinations and complete a major project.

**PhD Program**—Candidates for the PhD degree in statistics must complete at least 90 semester hours of approved course work beyond the bachelor’s degree and a minimum of 60 hours beyond a master’s degree, perform satisfactorily on preliminary and qualifying examinations, and complete an original thesis with a public oral defense. All STAT graduate students are assigned a limited amount of teaching and other departmental service as part of their graduate education. The assignment usually entails less than 10 hours per week, averaged over the semester. Students completing the PhD degree in four years will be assigned no more than six semesters of service.

See STAT in the Courses of Instruction section.
THE STUDY OF WOMEN, GENDER, AND SEXUALITY

DIRECTOR AND ADVISOR
Rosemary Hennessy

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Jane Chance
Marcia J. Citron
April D. DeConick
Margret Eifler
James D. Faubion
Eugenia Georges
Beatriz González-Stephan
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Anne C. Klein
Jeffrey J. Kripal
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Susan Keech McIntosh
Helena Michie
Deborah Nelson-Campbell
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Paula Sanders
Meredith Skura
Ewa M. Thompson

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Maria-Regina Kecht
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Nancy A. Niedzielski
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Nanxiu Qian
Carol E. Quillen
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Cymene Howe
Rachel Kimbro
Elora Shehabuddin

PROFESSOR IN THE PRACTICE
Diana L. Strassmann

LECTURER
Thad Logan

DEGREES OFFERED: BA AND GRADUATE CERTIFICATE

The undergraduate major, honors track undergraduate major, and the graduate certificate program take an interdisciplinary approach in their exploration of women's experiences and the role that ideas about sexual differences have played in human societies. Areas of inquiry include women's participation in social and cultural production; the construction of gender roles and sexuality; the relationship between ideas about gender and concepts inherent in other social, political, and legal structures; and the implications of feminist theory for philosophical and epistemological traditions. Students acquire an understanding of how adopting gender as a significant category of analysis challenges existing disciplines. They also gain proficiency in the methods used to study and compare cultural constructions of gender and sexuality, and they become familiar with the ongoing fundamental debates in women's, gender, and sexuality studies.

DEGREE REQUIREMENTS FOR BA IN THE STUDY OF WOMEN AND GENDER

For general university requirements, see Graduation Requirements in this publication. Students majoring in the study of women, gender, and sexuality must complete:
• 36 semester hours of departmental course work (30 hours if this is a second major)
• SWGS 101 *Introduction to the Study of Women, Gender, and Sexuality*, or SWGS 201 *Introduction to Lesbian, Gay, Bisexual, and Transgender Studies*
• SWGS 345 *History of Feminism* or at least one approved theory course
• SWGS 496 *Engaged Research Practicum in the Study of Women, Gender, and Sexuality* and SWGS 497 *Engaged Research Seminar in the Study of Women, Gender, and Sexuality*
• At least one approved non-Western studies course
• At least one approved critical race studies course

For students who pursue the Honors Program, the following two courses must be taken in place of SWGS 496 and SWGS 497, in addition to all other requirements listed above:
• SWGS 498 *Honors Research in the Study of Women, Gender, and Sexuality* (F)
• SWGS 499 *Honors Research in the Study of Women, Gender, and Sexuality* (S)

Of the remaining required courses, no more than four courses may be from a single department. All students must work out their individual courses of study with their faculty advisors. Each student’s course of study must be approved by the director. Course requirement tracking forms are available in the SWGS office for declared SWGS majors.

**NEW SWGS MAJOR**

In fall 2008 a new SWGS major will be available to undergraduates. The aim of the new major is to involve students directly in the feminist effort to integrate theory and practice both in the introductory required course and in the SWGS 496 *Engaged Research Practicum* and SWGS 497 *Engaged Research Seminar* that connect research to on-site work in a public service agency or organization outside the university.

The number of required credit hours (36) and all course requirements in the new major will remain the same as the former major, with the exception of the courses SWGS 498 and SWGS 499, which will now be required only of students choosing the Honors Program. Students pursuing the new general course of study will take SWGS 496 *Engaged Research Practicum* and SWGS 497 *Engaged Research Seminar* in the Study of Women, Gender, and Sexuality in their junior or senior year.

The *Engaged Research Practicum* and *Seminar* are open to nonmajors. Permission of the instructor is required as well as some background in the study of women, gender, or sexuality.

**THE SWGS HONORS TRACK**

Students wishing to pursue the Honors Program will complete a thesis. The process of preparing the thesis begins in the late spring of the junior year.

In that spring semester, the student chooses an advisor from the SWGS faculty, and with that advisor, produces a proposal for a research project. The proposal must be approved by the SWGS steering committee by the last day of the exam period in the spring of the junior year.
In the fall of the senior year, students enroll in SWGS 498, for directed research supervised by a CSWGS faculty affiliate and in regular consultation with their advisors.

In the spring of the senior year, students enroll in SWGS 499 and work closely with their advisors as they complete the thesis. Honors students present their projects in a public event at the end of the semester.

**SWGS Courses**

The following courses are among those that can be used to fulfill requirements for the major. As course offerings may vary from year to year, students are urged to consult with their faculty advisors or with the director at the beginning of each semester.

Please note that not all courses listed below will be offered every academic year. For a current list of courses that will be offered in fall 2009 and spring 2010, please visit the CSWGS Web site at cswgs.rice.edu.

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<tr>
<td>SWGS 101 <em>Introduction to the Study of Women, Gender, and Sexuality</em></td>
<td>SWGS 234 <em>U.S. Women’s History I: Colonial Beginnings to the Civil War</em></td>
</tr>
<tr>
<td>SWGS 201 <em>Introduction to Lesbian, Gay, Bisexual, and Transgender Studies</em></td>
<td>SWGS 235 <em>U.S. Women’s History II: Civil War to the Present</em></td>
</tr>
<tr>
<td>SWGS 496 <em>Engaged Research Practicum in the Study of Women, Gender, and Sexuality</em></td>
<td>SWGS 370 <em>Survey of African American Literature</em></td>
</tr>
<tr>
<td>SWGS 497 <em>Engaged Research Seminar in the Study of Women, Gender, and Sexuality</em></td>
<td>SWGS 387 <em>Cultural Studies</em></td>
</tr>
<tr>
<td>SWGS 498 <em>Honors Research in the Study of Women, Gender, and Sexuality (F)</em></td>
<td>SWGS 415 <em>Sociolinguistics</em></td>
</tr>
<tr>
<td>SWGS 499 <em>Honors Research in the Study of Women, Gender, and Sexuality (S)</em></td>
<td>SWGS 453 <em>Topics in African American Literature: Black Women Writers</em></td>
</tr>
<tr>
<td><strong>II. Courses that Satisfy the Non-Western Studies Requirement</strong></td>
<td>SWGS 468 <em>Women and the U.S. Welfare State: Sexual Politics and American Poverty</em></td>
</tr>
<tr>
<td>SWGS 240 <em>Gender and Politicized Religion</em></td>
<td><strong>IV. Courses that Satisfy the Theory Requirement</strong></td>
</tr>
<tr>
<td>SWGS 250 <em>International Political Economy of Gender</em></td>
<td>SWGS 303 <em>Women’s Stories and Legal Change</em></td>
</tr>
<tr>
<td>SWGS 283 <em>Women in the Modern Islamic World</em></td>
<td>SWGS 345 <em>History of Feminism</em></td>
</tr>
<tr>
<td>SWGS 315 <em>Gender and Islam</em></td>
<td>SWGS 380 <em>Feminist Theory North and South</em></td>
</tr>
<tr>
<td>SWGS 340 <em>Gender and Politicized Religion (enriched version)</em></td>
<td>SWGS 391 <em>Producing Feminist Knowledge: Methodology and Visual Culture</em></td>
</tr>
<tr>
<td>SWGS 399 <em>Women in Chinese Literature</em></td>
<td>SWGS 395 <em>Feminist Knowledges</em></td>
</tr>
<tr>
<td>SWGS 422 <em>Gender and Global Economic Justice</em></td>
<td>SWGS 430 <em>Queer Theory</em></td>
</tr>
<tr>
<td>SWGS 455 <em>Women and Gender in Medieval Islam</em></td>
<td>SWGS 434 <em>French Feminist Theory</em></td>
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<td>SWGS 460 <em>Feminist Social Thought</em></td>
</tr>
<tr>
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<td>SWGS 480 <em>Feminist Literary Theory</em></td>
</tr>
<tr>
<td></td>
<td>SWGS 482 <em>Problems in Contemporary Feminist Theory</em></td>
</tr>
</tbody>
</table>
V. Other Courses

SWGS 105 Language, Gender, and Sexuality
SWGS 130 Mapping German Culture: Women and National Socialism
SWGS 205 Language and Society
SWGS 220 Gendered Perspectives on the Law
SWGS 225 Women in Greece & Rome
SWGS 301 Arthurian Literature
SWGS 305 Chaucer
SWGS 306 Human Sexuality
SWGS 307 Sexuality and Christianity
SWGS 324 Sociology of Gender
SWGS 325 Sociology of the Family
SWGS 327 20th-Century Women Writers
SWGS 329 Literature and Culture of the American West
SWGS 330 Mapping German Culture: Courtship, Love, and Marriage in the Age of Chivalry
SWGS 331 The Psychology of Gender
SWGS 332 Self, Sex, and Society in Ancient Greece
SWGS 335 The Lifecycle: A Biocultural View
SWGS 339 Beauty and the Body
SWGS 342 Gender, Race, and Technoscience
SWGS 343 Women and Performance
SWGS 345 History of Feminism
SWGS 348 Subjectivity in Modern and Postmodern Art and Thought
SWGS 349 Women Writers: 1400-1900
SWGS 350 Gender and Symbolism
SWGS 355 Sexual Medicine
SWGS 356 The Cultural Body
SWGS 357 Gender and Social Movements in Latin America
SWGS 358 Mapping German Culture: European Women Filmmakers
SWGS 361 New German Cinema
SWGS 365 Gender, Subjectivity, and the History of Photography
SWGS 366 Topics in American Literature
SWGS 367 Southwest Narrative: Writing from Below
SWGS 368 Mythologies
SWGS 369 Seminar on Beauty and Fragmentation in Modern Art
SWGS 372 Survey of Victorian Fiction
SWGS 389 Generation X in Literature and Culture
SWGS 390 Hispanic Cinema
SWGS 398 Topics in Legal History
SWGS 400 Constructing Identities in Modern Fiction
SWGS 405 Austen Only
SWGS 410 The Literary and Historical Image of the Medieval Woman
SWGS 412 Women and Women’s Voices in French Literature
SWGS 420 Women and Gender in 19th-Century Europe
SWGS 440 Women in Music
SWGS 442 Women in Russian Literature
SWGS 444 Family and Inequality
SWGS 448 Disease and Difference: The Body in Visual Culture
SWGS 462 20th–21st-Century American Literary Studies
SWGS 465 Gender and Health
SWGS 470 Sex, Sanctity, and Psychoanalysis
SWGS 485 Gender and Hollywood Cinema in the 1950s
SWGS 486 Medicine and Media
SWGS 487 Black Feminism, Theory and History
SWGS 495 Independent Study

Concentration in Poverty, Social Justice, and Human Capabilities in the SWGS Major

Within the major in the Study of Women, Gender, and Sexuality, students can pursue a concentration in Poverty, Social Justice, and Human Capabilities (PJC).
The concentration allows students to focus their course of study on the relation of gender and sexuality to poverty and human well-being and to develop an analytic framework for addressing these issues.

The concentration consists of three courses (of the 10 or 12 required in the SWGS major):

- PJHC/SOCI 280 *Introduction to Poverty, Justice, Capabilities*
- and two approved electives with substantive gender focus chosen from the PJC course offerings. These elective courses also may be approved to fulfill SWGS requirements for critical race and non-Western studies.

**Requirements for Graduate Certificate in the Study of Women, Gender, and Sexuality**

The graduate certificate program in the study of women, gender, and sexuality is designed to provide interdisciplinary training in women, gender, and sexuality studies to students pursuing a PhD degree at Rice University. Students who have been admitted into a PhD program are eligible to apply to the SWGS graduate certificate program. The SWGS graduate certificate is not a free-standing degree program; in addition to fulfilling the SWGS requirements outlined below, candidates will be required to successfully complete the PhD program in which they have been admitted in order to receive the graduate certificate in SWGS. Further information is available on request from the SWGS office. For PhD requirements, see the relevant department. For general university requirements, see Graduate Degrees in this publication.

The program awards graduate fellowship stipends, within the limits of available funds, to enrolled certificate students during the prospectus-writing semester. Although timelines vary depending on the student’s home department, this semester normally occurs during the semester following the completion of coursework and after passing the qualifying examinations in the PhD program. Graduate students who enroll in the certificate program in fall 2008 and in subsequent semesters will be asked to submit a dissertation proposal (or a 500-word statement with a proposal to follow later) that includes some indication of the ways women, gender, and/or sexuality feature in their project in order for a stipend to be disbursed during the “prospectus semester.” CSWGS will ask for this proposal or statement after the student completes qualifying exams. Graduate certificate students are eligible to work as teaching assistants for an SWGS undergraduate core or cross-listed course, or in some cases, to teach a course of their own upon approval of the steering committee.

For the graduate certificate in SWGS, candidates must complete:

- Nine credit hours of courses in SWGS, including two core courses (SWGS 501 and SWGS 502) and one cross-listed elective course (see list of approved courses below)
- Three noncredit hours for participation in annual colloquium

SWGS certificate students are strongly encouraged to include a member of the CSWGS faculty on their dissertation committee and to consult regularly with the faculty member as they pursue their dissertation work.

The following courses are those that can be used to fulfill requirements for the graduate certificate. In most cases, students will be able to complete these requirements within the normal time limits for coursework in their PhD programs. All students must work out their individual courses of study with
the CSWGS director and the graduate advisor in their home departments. Each student's course of study must be approved by the CSWGS director. Please note that not all courses listed below will be offered every academic year. For a current list of courses that will be offered in fall 2009 and spring 2010, please visit the CSWGS Web site at cswgs.rice.edu.

I. Courses that Satisfy the Core Requirements

SWGS 501 Feminist Debates
SWGS 502 Gender, the Disciplines, and Interdisciplinarity

II. Courses that Satisfy the Cross-listed Elective Course Requirement

SWGS 503 Directed Reading
SWGS 517 Medieval Women Writers
SWGS 520 Shakespeare and Difference
SWGS 522 Feminist Economics
SWGS 525 Self, Sex, and Society in Ancient Greece
SWGS 542 Victorian Fiction
SWGS 545 Women and Gender: Europe and Beyond
SWGS 546 20th-Century British Literature
SWGS 551 U.S. Women's History
SWGS 556 Seminar in Language Variation
SWGS 576 Topics in U.S. Women's History
SWGS 577 Buddhism, Gender, Society
SWGS 580 Sex, Sanctity, and Psychoanalysis
SWGS 581 Cultural Studies
SWGS 583 Reading Material
SWGS 585 Postcolonialism and After

III. Annual Colloquium Requirement

Graduate certificate students will participate in a colloquium involving a series of speakers over the course of a year, to be offered annually at Rice and organized by the Center for the Study of Women, Gender, and Sexuality (CSWGS). Colloquium attendance by graduate certificate students constitutes an official requirement for the certificate. Normally, students are expected to attend colloquia over a minimum of 4 semesters, and attendance beyond that is highly encouraged. Colloquium topics will be determined by the CSWGS steering committee with a view to highlighting emerging knowledge in gender, sexuality, and women's studies. The colloquium provides graduate students with the opportunity to engage in sustained intellectual exchange with leading scholars and to participate in producing cutting-edge work in the field.
Subsurface Geoscience

The Wiess School of Natural Sciences

Degrees Offered: MS

Rice University introduced the professional master's degree in subsurface geoscience in fall 2003. This degree is designed for students who wish to become proficient in applying geological knowledge and geophysical methods to finding and developing reserves of oil and natural gas. Students can specialize in two focus areas: geology and geophysics. The geology focus area prepares students to be explorationists, with strong skills in using seismic and other geophysical methods along with geological principles to find oil and natural gas. The geophysics focus area prepares students to become technical experts in aspects of exploration seismology.

The subsurface geoscience degree is one of three tracks in the Professional Master's Program at Rice housed in the Wiess School of Natural Sciences. These master's degrees are designed for students seeking to gain further scientific core expertise coupled with enhanced management and communication skills. These degrees instill a level of scholastic proficiency that exceeds that of the bachelor's level, and they create the cross-functional aptitudes needed in modern industry. This program will allow students to move more easily into management careers in consulting or research and development, design, and/or marketing within oil-and gas-related industries.

Degree Requirements for MS in Subsurface Geoscience

In addition to core science courses, students are required to complete a three- to six-month internship and take a set of cohort courses focusing on business and communication. Students select a group of elective courses from their area of interest. Students must present their internship project in both oral and written form in the Professional Master's Seminar.

Part-time students who already work in their area of study may fulfill the internship requirement by working on an approved project with their current employer. For general university requirements for graduate study, see Graduate Students section, page 2–3, and see also Professional Degrees, pages 4–5.

Admission

Admission to graduate study in subsurface geoscience is open to qualified students holding a bachelor's degree in science that includes course work...
in geology, general chemistry, physics, calculus, differential equations, and linear algebra. Department faculty evaluate the previous academic record and credentials of each applicant individually.

**Science core courses:**
ESCI 415 Petroleum Geology (S)
ESCI 417 Petroleum Industry Economics and Management (S)
ESCI 420 Modern Industrial Exploration Techniques (S)
ESCI 440 Geophysical Data Analysis: Digital Signal Processing or
ESCI 441 Geophysical Data Analysis: Inverse Theory (S)

**Cohort courses:**
ESCI 442 Exploration Geophysics I (F)
ESCI 444 Exploration Geophysics II (S)

**Cohort courses:**
NSCI 501 Professional Master’s Seminar (F, S) [required for 2 semesters]
NSCI 511 Science Policy and Ethics (S)
NSCI 512 Professional Master’s Project (ES)
NSCI 610 Management in Science and Engineering (F)

**Internship**
An internship may be conducted under the guidance of a host company, government agency, or national laboratory. A summary of the internship project is required in both oral and written form as part of the Professional Master's Project.

**Elective Courses**
NOTE: Each of these electives is not offered every year, and some courses may have prerequisites or require instructor permission.

Students will choose four electives. Recommended courses include, but are not limited to, the following:

**Geology Focus Area**
ESCI 427 Seismic Sequence Stratigraphy (S)
ESCI 428 Interpretation of Reflection Seismograms (F)
ESCI 450 Remote Sensing (S)
ESCI 463 Advanced Structural Geology (F)
ESCI 467 Geomechanics (F)
ESCI 470 Quantitative Hydrogeology (S)
ESCI 504 Siliciclastic Depositional Systems (F)
ESCI 505 Applied Sedimentology (F)
ESCI 506 Carbonate Depositional Systems (S)

**Geophysics Focus Area**
CENG 571 Flow and Transport through Porous Media I (S)
ESCI 427 Seismic Sequence Stratigraphy (S)
ESCI 428 Interpretation of Reflection Seismograms (F)
ESCI 454 Geographic Information Science (F)
ESCI 461 Seismology I (F)
ESCI 467 Geomechanics (F)
ESCI 542 Seismology II (F)

**Additional Electives**
CAAM 378 Introduction to Operations Research (F)
CEVE 322 Engineering Economics for Engineers (F)
CEVE 505 Project Management
COMP 429 Introduction to Computer Networks (S)
ESCI 454 Geographic Information Science (F)
MGMT 661 International Business Law (S)
MGMT 674 Production and Operations Management (F)
NSCI 625 New Venture Creation for Science and Engineering (S)
STAT 310 Probability and Statistics (F, S)
STAT 410 Introduction to Statistical Computing and Computer Models (F, S)
Professional Science Master’s Fifth Year Degree Option for Rice Undergraduates

Rice students have an option to achieve the MS in subsurface geoscience by adding an additional fifth year to the four undergraduate years of science studies. Advanced Rice students in good standing apply during their junior year, then start taking required core courses of the subsurface geoscience program during their senior year. A plan of study based on their particular focus area will need to be approved by the track director and the PSM coordinator.
University courses provide opportunities for dialogue across disciplinary and departmental boundaries. They are an experiment in curriculum development, directed toward students interested in interdisciplinary subjects beyond their elected major.

See UNIV in the Courses of Instruction section.
VISUAL AND DRAMATIC ARTS

THE SCHOOL OF HUMANITIES

Chair
Brian Huberman

Professors
Karin Broker
George Smith
John Sparagana
Geoff Winningham

Associate Professors
Brian Huberman
Darra Keeton

Assistant Professor
Christopher Sperandio

Artist Teacher
Paul Hester

Lecturers on Theatre
Christina Keefe
Matthew Schlief

Visiting Lecturer on Theatre
Paige Willson

Lecturer on Film & Media Studies
Charles Dove

Degrees Offered: BA

Department of Visual and Dramatic Arts majors are students who concentrate their focus of study in the visual and dramatic arts, with emphasis in the studio arts, film, or theatre tracks. Each student should discuss with their faculty advisor the selection of courses and any other matters of concern in the student’s academic life such as study and travel abroad, scholarships and internships, career goals, options, etc.

Degree Requirements for BA in Visual and Dramatic Arts

For general university requirements, see Graduation Requirements (Undergraduate Students section, pages 2–5).

Bachelor of Arts in Visual and Dramatic Arts

Studio Art Track
Single Major
(13 courses required)

Freshman and Sophomore Years

ARTS 225 Basic Drawing (ARTS 101 accepted as equivalent)
ARTS 325 Life Drawing
ARTS 388 Critical Studies for Studio Practice
One HART (History of Art) elective
Two ARTS, FILM, or THEA electives
One ARTS Special Problems (may be taken any year of undergraduate study)

Junior Year

Four ARTS electives in painting, printmaking, sculpture, and photography (two fall; two spring)
Junior Field Trip (spring semester)

Senior Year

ARTS 499 Senior Studio (Six credit hours fall; four credit hours spring.) Students must enroll in ARTS 499 in both the fall and spring semesters of their senior year. A portfolio review is required prior to enrolling.
**Studio Art Track**  
**Double Major**  
**(11 courses required)**

**Freshman and Sophomore Years**

ARTS 225 *Basic Drawing* (ARTS 101 accepted as equivalent)

ARTS 325 *Life Drawing*

ARTS 388 *Critical Studies for Studio Practice*

One ARTS, FILM, HART, or THEA elective

One ARTS Special Problems (may be taken any year of undergraduate study)

**Junior Year**

Four ARTS electives (two fall; two spring) in painting, printmaking, sculpture, and photography

Junior Field Trip (spring semester)

**Senior Year**

ARTS 499 *Senior Studio* (Six credit hours fall; four credit hours spring.) Students must enroll in ARTS 499 in both the fall and spring semesters of their senior year. A portfolio review is required prior to enrolling.

Visual arts majors are strongly encouraged to explore arts-related courses offered in other departments that may enrich the studio major, such as philosophy, anthropology, science, history, cultural studies, language, writing, comparative studies, etc. Students should speak with their Visual and Dramatic Arts faculty advisor prior to enrolling.

The junior year field trip will be designed to help visual arts majors focus on the upcoming senior year of intensive studio work. Trips may include local Houston alternative art, theatre, and film venues; museums; artist studios; and exhibitions as well as travel to destinations within the United States to visit significant arts sites and works.

**Film Track**

**Single Major**  
**(12 courses required)**

FILM 225 *Introduction to Filmmaking and Editing*, or any introductory level ARTS elective

FILM 327 *Documentary Production*

FILM 328 *Filmmaking I*

FILM 280 *History and Aesthetics of Film*, FILM 329 *Film Form*, or FILM 432 *Film Genre: The Western*

Six elective courses in film (FILM), studio practice (ARTS), or theatre (THEA). May not include more than three studio arts practice (ARTS), or theatre (THEA).

Two elective courses in theory/criticism of studio arts (ARTS), theatre (THEA), or film/media studies (offered in the Departments of Anthropology, English, French Studies, History, etc.).

NOTE: Open selections qualified by course prerequisites. Elective courses should be selected in consultation with a Visual and Dramatic Arts faculty advisor.

Junior Field Trip (recommended)

**Film Track**  
**Double Major**  
**(10 courses required)**

FILM 225 *Introduction to Filmmaking and Editing*, or any introductory level ARTS elective

FILM 327 *Documentary Production*

FILM 328 *Filmmaking I*

FILM 280 *History and Aesthetics of Film*, FILM 329 *Film Form*, or FILM 432 *Film Genre: The Western*

Four elective courses in film (FILM), studio arts practice (ARTS), or theatre (THEA). May not include more than two studio practice (ARTS) or theatre (THEA).

Two elective courses in studio arts practice (ARTS), theatre (THEA), or film history/theory (offered in the Departments of Anthropology, English, French Studies, History, etc.).

NOTE: Open selections qualified by course prerequisites. Elective courses should be selected in consultation with a Visual and Dramatic Arts faculty advisor.

Junior Field Trip (recommended)
Film track majors are strongly encouraged to explore arts-related courses offered in other departments that may enrich the film major, such as philosophy, anthropology, science, history, cultural studies, language, writing, comparative studies, etc. Students should speak with their Visual and Dramatic Arts faculty advisor prior to enrolling.

The junior year field trip will be designed to help visual arts majors focus on the upcoming senior year of intensive studio work. Trips may include local Houston alternative art, theatre, and film venues; museums; artist studios; and exhibitions as well as travel to destinations within the United States to visit significant arts sites and works.

**Theatre Track**

**Single Major**

(13 courses required)

- ARTS 225 *Basic Drawing* (ARTS 101 accepted as equivalent)
- THEA 100, *Theatre Technology* or THEA 101 *Costume/Clothing Construction*
- THEA 300 *Introduction to Theatre Design* or THEA 301 *Acting I*
- THEA 303 *Introduction to Theatre*
- THEA 331 *Theatre Production-Crew*
- ARTS 388 *Critical Studies for Studio Practice*

This counts as 1 of the 2 elective courses in theory/criticism. Must be taken during freshman, sophomore, or concurrent in junior year.

Six elective courses in theatre (THEA), studio arts practice (ARTS), or film (FILM). May not include more than three studio arts practice (ARTS) or film (FILM).

One elective course in visual arts studio practice (ARTS), film production, history, or theory/criticism (FILM), dramatic literature (ENGL), or art history (HART). NOTE: Open selections qualified by course prerequisites. Elective courses should be selected in consultation with a Visual and Dramatic Arts faculty advisor.

Junior Field Trip (recommended)

**Theatre Track**

**Double Major**

(11 courses required)

- ARTS 225 *Basic Drawing* (ARTS 101 accepted as equivalent)
- THEA 100 *Theatre Technology* or THEA 101 *Costume/Clothing Construction*
- THEA 300 *Introduction to Theatre Design*, or THEA 301 *Acting I*
- THEA 303 *Introduction to Theatre*
- THEA 331 *Theatre Production-Crew*
- ARTS 388 *Critical Studies for Studio Practice*

This counts as one of the two elective courses in theory/criticism. Must be taken during freshman, sophomore, or concurrent in junior year.

Four elective courses in theatre (THEA), studio arts practice (ARTS), or film (FILM). May not include more than two studio arts practice (ARTS) or film (FILM).

One elective course in visual arts studio practice (ARTS), film production, history, or theory/criticism (FILM), dramatic literature (ENGL), or art history (HART). NOTE: Open selections qualified by course prerequisites. Elective courses should be selected in consultation with a Visual and Dramatic Arts faculty advisor.

Junior Field Trip (recommended)

Theatre track majors are strongly encouraged to explore arts-related courses offered in other departments that may enrich the theatre major, such as philosophy, anthropology, science, history, cultural studies, language, writing, comparative studies, etc. Students should speak with their Visual and Dramatic Arts faculty advisor prior to enrolling.

The junior year field trip will be designed to help all VADA majors focus on the upcoming senior year of intensive production work. Trips may include local Houston alternative art, theatre, and film venues; museums; artist studios; and exhibitions as well as travel to destinations within the United States to visit significant arts sites and works.
Transfer Credit

No more than two courses may be transferred for the single or double major to satisfy degree requirements for BA in Visual and Dramatic Arts degree. The two transfer credit courses must be studio, film, or theatre practice courses required for all majors. Advanced placement credit may not be used by Visual and Dramatic Arts majors to fulfill department degree requirements.

Entering transfer students who are transferring coursework from another accredited college or university will be allowed to transfer their undergraduate art courses. Students must speak with the department chairman immediately upon transferring to Rice.

The Department of Visual and Dramatic Arts will accept academic work completed in the Spring at NYU program as well as the National Theater Institute program, Eugene O’Neill Theater Center, as transfer credit to fulfill major requirements (following university transfer credit guidelines).

See also Transfer Credit in Undergraduate Students section, pages 15–16.

Rice Theatre Program

Rice Theatre Program curriculum offers a solid foundation in all aspects of theatrical production from acting and directing to technology and design for students who wish to pursue a professional career in theatre or continue on to a graduate program. Theatre courses also are open to nonmajors who want to gain a greater appreciation for the art of theatre.

There are two main-stage productions (one fall and one spring) and the possibility of two student showcases offered each year in Hamman Hall—a 500-seat proscenium theatre facility. The department invites distinguished guest artists each semester to direct and produce the two main-stage productions. Participation in productions is open to all students.

Theatre Program faculty are actively involved in professional theatre and film locally, nationally, and internationally and actively pursue opportunities to involve advanced students in that work. In addition, advanced students are encouraged to apply for internship positions whenever possible. Rice students have been accepted in competitive internships such as The Alley Theatre, Berkeley Repertory Theatre, Williamstown Theatre Festival, and The Peter Hall Company. In addition, students are encouraged to study theatre abroad and transfer course credit back to Rice. Approval for transfer credit must be sought prior to enrollment in a study-abroad program by contacting the director of the Theatre Program.

In even number years, the Theatre Program, sponsored by the Alan and Shirley Grob Endowment for Shakespeare in Performance, hosts the Actors From the London Stage—one of the oldest established touring Shakespeare theater companies in the world—for a week-long residency of workshops, performances, and lectures. Each tour presents a full-length play by Shakespeare performed by five classically trained actors who come from such prestigious companies as the Royal Shakespeare Company, the Royal National Theatre of Great Britain, and Shakespeare’s Globe Theatre.

National Theater Institute

The National Theater Institute is the educational arm of the renowned Eugene O’Neill Theater Center. The program is designed to complement a liberal arts education with three distinct study-away programs, all offering rigorous,
risk-taking theater exploration. The semester long program at the O’Neill Center in Connecticut, the NTI Moscow Art Theater semester, and the seven-week Theatermakers summer program confront the serious theater student with opportunities to discover new creative possibilities.

The National Theater Institute offers an extensive conservatory-based training program for the dedicated student. Distinguished master teaching artists guide the classes in courses in acting, directing, design, playwriting, stage combat, voice, and movement. The Department of Visual and Dramatic Arts will accept academic work completed at the National Theater Institute as transfer credit to fulfill major requirements (following university transfer credit guidelines).

**Rice Film Program**

Our film program works in concert with the Department of Visual and Dramatic Arts’ academic mission to enrich our students’ undergraduate experience. Our film and media studies students are provided state-of-the-art screening facilities to examine and study the historical and methodological aspects of movies from around the world in 16, 35, or 70 millimeter with Dolby Digital Sound. Film production students can showcase their work during the academic year on our new silver screen in recently renovated projection facilities.

Each year, we screen films from around the world—foreign features, shorts, documentaries, and animation—as part of our ongoing partnership with the diverse cultural communities of the City of Houston. Film at Rice reaches beyond the university’s hedges to create, engage, and encourage scholarly thought and dialog on the many issues that impact our world. Among the internationally known filmmakers who have appeared on our campus over the years include Werner Herzog, Rakhshan Banietemad, Atom Egoyan, Shirin Neshat, Martin Scorsese, Andy Warhol, George Lucas, and Dennis Hopper.

**Exhibitions, Lectures, and Arts Programs at Rice**

The Department of Visual and Dramatic Arts mounts several art and photography exhibitions and stage productions each year. In addition, exhibitions and related activities organized by the Rice University Art Gallery enrich the teaching program of the Department of Visual Arts as well as the larger university and Houston communities.

The department enjoys an ongoing close relationship with local theatres, museums, and galleries. The department offers opportunities for students to work and study with local art venues and alternative art spaces by way collaborative events and programs. The collections and exhibitions of local museums are often the subject of course lectures.

Lectures, symposia, and talks are sponsored by the department and are designed to bring local, national, and international scholars, actors, directors, critics, and studio artists to campus to speak on a broad range of topics and current interests.

**Museum of Fine Arts, Houston Glassell School of Art Core Fellows**

The Department of Visual and Dramatic Arts, in partnership with the Museum of Fine Arts, Houston Glassell School of Art, supports up to seven Glassell Core Fellowship recipients each year to teach studio practice and critical theory courses. These Core Fellowship recipients, selected by the MFAH from
the highly competitive and prestigious Glassell School of Art Core Fellowship Residency Program, are post-graduate artists and art educators.

See ARTS, FILM, HART, and THEA in the Courses of Instruction section for course descriptions.
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Dean of the School of Social Sciences ..................... Lyn Ragsdale
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Dean of Graduate and Postdoctoral Studies .......... Paula Sanders
Director of the James A. Baker III Institute for Public Policy ..................................................... Edward P. Djerejian
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Vice President for Enrollment ......................... Chris Muñoz
Vice President for Finance .................................. Kathy Collins
Vice President for Investments and Treasurer .......... Scott W. Wise
Vice President for Public Affairs ......................... Linda Thrane
Vice President for Resource Development .......... Darrow Zeidenstein
General Counsel .............................................. Richard A. Zansitis
University Representative .................................. Y. Ping Sun

ADMINISTRATIVE OFFICES

Academic Advising ............................................ Brian Gibson
Academic and Research Computing .................... Gary Kidney
Administrative Systems ....................................... Randy Castiglioni
Admission .................................................. Julie Browning
Affirmative Action/Equal Employment Opportunity .... Russell Barnes
Alumni Affairs ........................................ Ann Peterson
Athletics .................................................. Chris Del Conte
Budget Office ................................................ John Richard
Campus Store ................................................ Evelyn Morton
Career Services .......................................... Erik Larson
Cashier's Office ........................................... Patricia C. Ciampi
Civic Engagement .......................................... Stephanie Post
Community Involvement Center ......................... Mac Griswold
Controller's Office ........................................ Evelyn Stewart
Counseling Center ......................................... Lindley Doran
Delivery Services .......................................... Ute Franklin
Disability Support Services .............................. Jean Ashmore
Diversity .............................................. Roland B. Smith Jr.
<table>
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<tr>
<th>Title</th>
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<tr>
<td>Emergency Medical Service (EMS)</td>
<td>Cathy A. Sunday</td>
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<tr>
<td>Enrollment: Administration</td>
<td>Diane Havlinek</td>
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<tr>
<td>Enterprise Applications</td>
<td>Andrea Martin</td>
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<td>Environmental Health and Safety</td>
<td>Kathryn Cavender</td>
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<td>Events Office</td>
<td>Amanda Lytz-Hellman</td>
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<td>Facilities and Engineering</td>
<td>Barbara White Bryson</td>
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<td>General Counsel</td>
<td>Richard A. Zansitis</td>
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<td>Housing and Dining</td>
<td>Mark Ditman</td>
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<td>Human Resources</td>
<td>Mary A. Cronin</td>
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<td>Institutional Effectiveness</td>
<td>John M. Cornwell</td>
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<tr>
<td>Institutional Research</td>
<td>Leona Urbish</td>
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<td>International Programs (Study/Work Abroad)</td>
<td>Shannon Cates</td>
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<td>International Students and Scholars</td>
<td>Adria Baker</td>
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<td>Intramural and Club Sports</td>
<td>Tina Villard</td>
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<td>K–12 Initiatives</td>
<td>Carol Quillen</td>
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<td>KTRU General Manager</td>
<td>Will Robedee</td>
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<td>Language Resource Center</td>
<td>Claire Bartlett</td>
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<td>Media Relations and Information</td>
<td>B. J. Almond</td>
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<td>Multicultural Affairs</td>
<td>Catherine E. Clack</td>
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<td>Networking, Telecommunications, and Data Center</td>
<td>William Deigaard</td>
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<td>Payroll Office</td>
<td>Darlene Banning</td>
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<td>Police Department (RUPD)</td>
<td>Bill Taylor</td>
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<td>President’s Office</td>
<td>Cynthia L. Wilson</td>
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<td>Provost’s Office</td>
<td>Colleen E. Morimoto</td>
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<td>Public Affairs</td>
<td>B. J. Almond</td>
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<td>Office of the Registrar</td>
<td>David Tenney</td>
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<tr>
<td>Research and Graduate Studies</td>
<td>Kellie Sims Butler</td>
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<td>Research Computing</td>
<td>Kim Andrews</td>
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<td>Scholarships and Fellowships</td>
<td>Kellie Sims Butler</td>
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<td>Sponsored Research</td>
<td>Sarah White</td>
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<td>Student Activities</td>
<td>Heather Masden</td>
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<td>Student Affairs</td>
<td>Matt Taylor</td>
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<td>Boyd Beckwith</td>
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<td>Student Financial Services</td>
<td>Anne Walker</td>
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<td>Mark Jenkins, MD</td>
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<td>Student Judicial Programs</td>
<td>Donald Ostdieck</td>
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<tr>
<td>Systems, Architecture, and Infrastructure</td>
<td>Barry Ribbeck</td>
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<td>Telecommunications</td>
<td>Reggie Clarkson</td>
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<td>Transportation Office</td>
<td>Eugen Radulescu</td>
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<td>University Relations</td>
<td>Greg Marshall</td>
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<td>Web Services</td>
<td>Jeff Frey</td>
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<tr>
<td>Wellness Center</td>
<td>Emily Page</td>
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**College Masters**

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<tr>
<th>College</th>
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<tr>
<td>Baker College</td>
<td>José Aranda and Krista Comer</td>
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<td>Brown College</td>
<td>Steve and Laura Cox</td>
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<tr>
<td>Duncan College</td>
<td>José Aranda and Krista Comer</td>
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<td>Hanszen College</td>
<td>Rob and Ann Griffin</td>
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<td>Jones College</td>
<td>Rudy and Nancy Guerra</td>
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<td>Lovett College</td>
<td>Matteo Pasquali and Marie-Nathalie Contou-Carrere</td>
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<td>Martel College</td>
<td>Gerald Dickens and Michelle McCormick</td>
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<tr>
<td>McMurtry College</td>
<td>Mike Wolf and Paula Krisko</td>
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<tr>
<td>Sid Richardson College</td>
<td>Dale and Elise Sawyer</td>
</tr>
<tr>
<td>Wiess College</td>
<td>Michael Gustin and Denise Klein</td>
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<tr>
<td>Will Rice College</td>
<td>Mike Wolf and Paula Krisko</td>
</tr>
</tbody>
</table>
Emeritus Faculty

Akers, William Walter, 1947–93. Professor Emeritus in Chemical and Biomolecular Engineering
BS (1943) Texas Technological College; MS (1944) University of Texas at Austin; PhD (1950) University of Michigan

Alcover, Madeleine, 1975–2004. Professor Emerita of French
Licence de lettres modernes (1962), Diplôme d’études supérieures (1963), Doctorat de 3e cycle (1965) France

BA (1953) Willamette University; MA (1954) Stanford University; Certificat d’études politiques (1955) University of Bordeaux; PhD (1964) University of California–Berkeley

Andrews, John E., 1982–91. Professor Emeritus of Environmental Science and Engineering
BSCE (1951), MS (1954) University of Arkansas; PhD (1964) University of California–Berkeley

BA (1963) University of Michigan; MA (1965) Stanford University; PhD (1967) University of Michigan

Armeniades, Constantine D, 1969–2006. Professor Emeritus of Chemical and Biomolecular Engineering
BS (1961) Northeastern University; MS (1967) Case Institute of Technology; PhD (1969) Case Western Reserve University

BA (1960), MA (1964), PhD (1967) University of Leiden

BA (1955) University of Colorado; MBA (1959) Harvard Graduate School of Business Administration

Baker, Donald Roy, 1966. Professor Emeritus of Geology, Honorary Associate of Brown College
BS (1950) California Institute of Technology; PhD (1955) Princeton University

BS (1957) Duke University; MS (1959), PhD (1963) Yale University

Bale, Allen M., 1947–78. Athletic Director Emeritus
BS (1930) Rice Institute; MA (1939) Columbia University

Bally, Albert W., 1981–96. Harry Carothers Wiess Professor Emeritus of Geology
PhD (1953) University of Zurich, Switzerland

Barker, J. R., 1949–86. Professor Emeritus of Health and Physical Education
BS (1949) Rice Institute; MEd (1954) University of Texas–Austin

BS (1968) University of California at Berkeley; MS (1971), PhD (1972) Cornell University

BS (1961) Louisiana Polytechnic Institute; MA (1965), PhD (1965) Rice University

BA (1959) Kansas University; MFA (1965) Columbia University

BA (1960), MA (1961) Texas Christian University; PhD (1965) University of Texas–Austin

Brotzen, Franz Richard, 1954–86. Stanley C. Moore Professor Emeritus of Materials Science
BS (1950), MS (1953), PhD (1954) Case Institute of Technology

Brown, Katherine Tsanoff, 1963–89. Professor Emerita of Art History, Honorary Associate of Will Rice College
BA (1938) Rice Institute; MFA (1940) Cornell University

BA (1957), BSEE (1958), Rice Institute; MS (1960) Rice University; PhD (1965) Stanford University

Burt, George, 1984–97. Professor Emeritus of Theory and Composition

AB (1957) Princeton University; MA (1961), PhD (1964) Yale University

BS (1953) Southwest Missouri State University; MS (1955) University of Illinois; PhD (1958) University of Oklahoma

Cason, Carolyn, 1956–74. Lecturer Emerita in Dietetics
BS (1934) University of Texas at Austin; MA (1939) Columbia University
Clark, Howard Charles, 1966–88. Professor Emeritus of Geology and Geophysics
BS (1959) University of Oklahoma; MA (1965), PhD (1967) Stanford University

Class, Calvin M., 1952–85. Professor Emeritus of Physics
AB (1943), PhD (1951) Johns Hopkins University

BS (1964) University of Southwestern Louisiana; PhD (1967) Rice University

BA (1961) University of Colorado; PhD (1965) Cornell University

BA (1954) Rice Institute; PhD (1957) University of California–Berkeley

Daichman, Graciela S., 1973–99. Lecturer Emerita of Hispanic Studies

BA (1961) University of Texas at Austin; MA (1966), PhD (1969) Princeton University

Davis, Philip W., 1969–2003. Agnes Cullen Arnold Professor Emeritus of Linguistics
BA (1961) University of Texas at Austin; PhD (1965) Cornell University

Davis Jr, Sam H., 1957–2000. Professor Emeritus in Chemical Biomolecular Engineering and Computational and Applied Mathematics
BA (1952), BS (1953) Rice Institute; ScD (1957) Massachusetts Institute of Technology

De Bremaecker, Jean-Claude, 1959–94. Professor Emeritus of Earth Science
Ingenieur Civil des Mines (1948) University of Louvain, Belgium; MS (1950) Louisiana State University; PhD (1952) University of California–Berkeley

BS (1962), MS (1964) University of Miami; PhD (1966) University of Utah

BS (1952) California Institute of Technology; PhD (1956) Duke University

Dharan, Bala G., 1982–2009. J. Howard Creekmore Professor Emeritus of Management

AB (1958) Duke University; AM (1960), PhD (1964) Harvard University

Drew, Katherine Fischer, 1950–96. Lynette S. Autrey Professor Emerita of History
BA (1944), MA (1945) Rice Institute; PhD (1950) Cornell University

BS (1955) Queen's University, Canada; PhD (1961) California Institute of Technology

BSCE (1968) Engineering University, Pakistan; MS (1975) Asian Institute of Technology, Thailand; PhD (1982) University of Michigan; MBA (1999) University of Houston

Dyson, Derek C., 1966–2000. Professor Emeritus of Chemical and Biomolecular Engineering
BA (1955) University of Cambridge; PhD (1966) University of London

BA (1962), MA (1964), PhD (1969) University of California–Berkeley

BA (1938) Oklahoma State University; MFA (1954) Yale University

Farwell, Joyce, 1994–2005. Professor Emerita of Voice
BME (1956), MME (1958) University of Oklahoma; DMA (1976) College Conservatory of Music, University of Cincinnati

BS (1962) Southernwestern University; MBS (1965) University of Colorado; PhD (1969) Rice University

BA (1955) Hanover College; MS (1958), PhD (1961) Purdue University

Freeman, John W., 1964–2000. Professor Emeritus of Space Physics and Astronomy, Research Professor, Associate of Lovett College
BS (1957) Beloit College; MS (1961), PhD (1963) University of Iowa

Fultz, Lucile P., 1990–2007. Associate Professor Emeritus of English
AB (1959) Spellman College; MA (1968) University of Iowa; PhD (1990) Emory University
BS (1948) Trinity College, Dublin; MSc (1949) Carnegie Mellon University; PhD (1953) Princeton University

BA (1963) Brooklyn College; MS (1964), PhD (1966) Syracuse University

BS (1959) Birmingham University, England; PhD (1963) Cambridge University

BA (1939), MA (1942) Montclair State College; MS (1946), PhD (1953) Cornell University


Hale, Elton B., 1963–79. Professor Emeritus of Accounting
BS (1937), MA (1940) Southwest Texas State Teachers College; PhD (1948) University of Texas–Austin

BA (1952) Universidad de la Republica; MA (1987) Rice University

BS (1967) Michigan State University; PhD (1973) Yale University

BS, MA (1963) Carnegie Institute of Technology; PhD (1966) Stanford University

BA (1961) Princeton University; PhD (1973) Stanford University

BA (1956) Rice Institute; MA (1959) Indiana University

Haymes, Robert C., 1968–98. Professor Emeritus of Space Physics and Astronomy
BS (1952), MS (1955), PhD (1959) New York University

BS (1950), MS (1957) University of Texas–Austin; PhD (1961) University of Michigan

Heymann, Dieter, 1966–98. Professor Emeritus of Geology and Geophysics, Adjunct Professor in Chemistry
Ba (1954), PhD (1957) University of Amsterdam, The Netherlands

Hightower, Joe W., 1967–2001. Professor Emeritus of Chemical and Biomolecular Engineering
BS (1959) Harding University; MS (1961), PhD (1963) Johns Hopkins University

Hodges, Lee, 1930–71. Professor Emeritus of French
BS (1930) Harvard University; MA (1934) Rice Institute

SB (1945), SM (1947) Massachusetts Institute of Technology; PhD (1956) Pennsylvania State University

Huddle, Donald L., 1964–92. Professor Emeritus of Economics
BS (1959), MA (1960) University of California–Los Angeles; PhD (1964) Vanderbilt University

BA (1948) University of California–Los Angeles; MA (1950), PhD (1952) Columbia University

AB (1955) Harvard University; MA (1957) University of Michigan; PhD (1961) Stanford University

Jitcoff, Andrew N., 1950–72. Professor Emeritus of Russian
Bachelor (1928), Master (1931) Prague Institute of Technology, Czechoslovakia


BA (1957) Millsaps College; MA (1958), PhD (1960) Eastman School of Music, University of Rochester

BS (1960), MS (1962) University of Cincinnati; MS (1965), PhD (1968) University of Michigan


BA (1956), PhD (1959) Rice Institute
Kiperman, Anita, 1976–98. Lecturer Emerita of Spanish
BA (1957) Universidad Nacional de Buenos Aires; MA (1971) University of Houston

Kobayashi, Riki, 1951–97. Louis Calder Professor Emeritus in Chemical and Biomolecular Engineering
BS (1944) Rice Institute; MSE (1947), PhD (1951) University of Michigan

BS (1965), Providence College; PhD (1968) University of Wisconsin

BA (1951) Yale University; PhD (1958) University of California—Berkeley

BS (1957), MS (1959), PhD (1961) Carnegie Mellon University

Leal, Maria Teresa, 1965–96. Professor Emerita of Spanish and Portuguese
BA (1946) Pontificia Universidade Católica, Brazil; PhD (1965) Universidade Federal de Rio de Janeiro, Brazil

Lecuyer, Maurice Antoine, 1962–79. Professor Emeritus of French
Baccalauréat es lettres (1937), Licence es lettres (1943), Diplome d’études superieures (1944) Universite de Paris, France; PhD (1954) Yale University

BS (1962) North Texas State University; MEd (1967) Sam Houston State University; EdD (1974) Louisiana State University

Leeds Jr, J. Venn, 1964–89. Professor Emeritus of Electrical and Computer Engineering
BA (1955), BSEE (1956) Rice Institute; MSEE (1960), PhD (1965) University of Pittsburgh; JD (1972) University of Houston


Lewis, Edward S., 1948–90. Professor Emeritus of Chemistry
BS (1940) University of California—Berkeley; PhD (1947) Harvard University

Marcus, George E., 1975–2006. Emeritus Professor of Anthropology
BA (1958) Yale University; PhD (1976) Harvard University


BA (1965) University of Cincinnati; MA (1965) University of Washington; MA (1968) University of Cincinnati

McIntosh, Roderick J., 1980. Professor Emeritus of Anthropology
BA (1973) Yale University; MLITT (1975), PhD (1979) Trinity College, University of Cambridge

Meixner, John, 1968–95. Professor Emeritus of English
BA (1951) City College of New York; MA (1953), PhD (1957) Brown University

Merwin, John E., 1955–98. Professor Emeritus of Civil and Environmental Engineering
BA (1952), BSME (1953), MSME (1955) Rice Institute; PhD (1962) University of Cambridge

BA (1955), PhD (1962) California Institute of Technology

Miele, Angelo, 1964–93. Foyt Family Professor Emeritus in Mechanical Engineering and Materials Science and Computational and Applied Mathematics, Research Professor
Dr. CE (1944), Dr. AE (1946) University of Rome

BS (1957), MA (1959) McGill University; PhD (1963) Johns Hopkins University


BA, BS (1961) Rice University; PhD (1969) University of Minnesota

BA (1957), MA (1959) North Texas State University; BD (1961), PhD (1965) Yale University

BA (1956) Adelphi University; Certificate (1958) Universita de Perugia; Certificate (1958) Yale University School of Languages; Certificate (1960) Goethe Institute, Blaubeuren, Germany

BA (1942) George Pepperdine University; BD (1946), PhD (1951) Yale University

BS (1957), MS (1958) University of Michigan; PhD (1962) University of California—Berkeley
O’Dell, Charles Robert, 1982–2000. Andrew Hays Buchanan Professor Emeritus of Astrophysics
BSed (1959) Illinois State University; PhD (1962) University of Wisconsin–Madison

BS (1957), PhD (1962) University of Sheffield

BSEE (1958), MSEE (1959) University of Arkansas; PhD (1962) Purdue University

Pfeiffer, Paul E., 1947–97. Professor Emeritus of Computational and Applied Mathematics
BSEE (1938) Rice Institute; BD (1943) Southern Methodist University; MSEE (1948), PhD (1952) Rice Institute

Philpott, Charles William, 1964–96. Professor Emeritus of Ecology and Evolutionary Biology
BA (1957), MS (1958) Texas Technological College; PhD (1962) Tulane University

BA (1951) Harvard University; MA (1952) Columbia University; PhD (1958) University of Wisconsin–Madison

Poindexter, Hally Beth W., 1965–98. Professor Emeritus of Kinesiology
BA (1947) Rice Institute; BS (1949) University of Houston; MA (1950) University of Northern Colorado; EdD (1957) Columbia University

BS (1956) University of Notre Dame; MS (1961), PhD (1966) University of Chicago

BFA (1965) Atlanta School of Art; MFA (1968) Tulane University

Raaphorst, Madeleine Rousseau, 1963–89. Professor Emerita of French
Baccalauréat es lettres (1939) Université de Poitiers, France; Licence en droit (1943) Universite de Paris, France; PhD (1959) Rice Institute

BA (1954), BSEE (1955), MA (1957), PhD (1959) Rice Institute

Rachford Jr, Henry H., 1964–82. Professor Emeritus of Mathematical Sciences
BS (1945), MA (1947) Rice Institute; ScD (1950) Massachusetts Institute of Technology

Rea, Joan, 1968–2000. Professor Emerita of Hispanic Studies
BA (1954) New York University; MA (1964) University of Houston; PhD (1970) University of Texas–Austin

BA (1954) Augustana College; PhD (1957) University of Southern California

BA (1962) Wabash College; PhD (1968) Stanford University

BA (1958) Rosary College; MMus (1960), PhD (1966) University of Illinois

Seed, Patricia, 1982–2006. Professor Emerita of History
BA (1971) Fordham University; MA (1975) University of Texas–Austin; PhD (1980) University of Wisconsin–Madison

Sellers, James, 1971–1993. Former Professor of Religious Studies
BEE (1947) Georgia Institute of Technology; MS (1952) Florida State University; PhD (1958) Vanderbilt University

Sims, James R., 1942–87. Herman and George R. Brown Professor Emeritus of Civil and Environmental Engineering
BS (1941) Rice Institute; MS (1950), PhD (1956) University of Illinois

AB (1956) Washington University; PhD (1966) Harvard University

Spence, Dale W., 1963. Professor Emeritus of Kinesiology
BS (1956) Rice Institute; MS (1959) North Texas State University; EdD (1966) Louisiana State University

Stebbing, Ronald F., 1968–95. Professor Emeritus of Space Physics and Astronomy
BSc (1952), PhD (1956) University College, London

BS (1956), MBA (1958) University of Denver; PhD (1963) University of Florida

BA (1954) Colgate University; MA (1965), PhD (1970) Indiana University

Stormer Jr, John C., 1983–95. Cronies Professor Emeritus of Geology
AB (1963) Dartmouth College; PhD (1971) University of California–Berkeley

BA (1949) Hobart College; MA (1952), PhD (1955) University of Missouri

BScHons (1951), MSc (1953) Delhi University; PhD (1959) Columbia University; PhD (Honoris Causa) (1981) Oslo University
BA (1966) Harvard University; Diploma (1969), PhD (1973) Oxford University

BA (1960) Westminster College, MA (1964) University of Nebraska; PhD (1970) University of Minnesota

BA (1945), MFA (1949) Princeton University

Trammell, George T., 1961–93. Professor Emeritus of Physics
BA (1944) Rice Institute; PhD (1950) Cornell University

Trepel, Shirley, 1975–94. Professor Emerita of Violoncello
BMus (1945) Curtis Institute of Music

Profesorado (1956) La Plata National University, Argentina; PhD (1968) Stanford University

AB (1952) Dartmouth College; MS (1953), PhD (1959) Northwestern University

BEng (1962), MS (1964) Stevens Institute of Technology; MA (1967) University of Michigan; PhD (1970) University of London

BS (1948) Robert College, Turkey; MS (1950), PhD (1953) University of Illinois

Wadsworth, Philip A., 1964–73. Professor Emeritus of French
AB (1935), PhD (1939) Yale University

BS (1945) Rice Institute; MA (1949), PhD (1952) University of Texas–Austin

Wall, Frederick T., 1972–79. Professor Emeritus of Chemistry
BC (1933), PhD (1937) University of Minnesota

BA (1965) Bryn Mawr; MA (1965), PhD (1967) Stanford University

Walters, G. King, 1963–99. Sam and Helen Worden Professor Emeritus of Physics
BA (1953) Rice Institute; PhD (1956) Duke University

BS (1959) National Taiwan University; PhD (1965) Johns Hopkins University

BA (1962) Rice University; MS (1964), PhD (1965) New York University

BA (1951) Yale University; MA (1956) Columbia University; PhD (1975) New York University

Wilson, Joseph B., 1954–98. Professor Emeritus of German Studies
BA (1950), MA (1953) Rice Institute; PhD (1960) Stanford University

Winkler, Michael, 1967–2000. Professor Emeritus of German Studies
BA (1961) St. Benedict's College; MA (1963), PhD (1966) University of Colorado

BEngPhys (1962) Cornell University; PhD (1966) California Institute of Technology


BA (1951), MA (1954) University of Minnesota; PhD (1965) Carnegie Institute of Technology

Faculty

Aazhang, Behnnaam, 1985. J.S. Abercrombie Professor in Electrical and Computer Engineering

Abreu, Vitor dos Santos, 2000. Adjunct Associate Professor of Earth Science

Achard, Michel, 1997. Associate Professor of Linguistics and French Studies
Adamson, David, 2008. Adjunct Assistant Professor in Civil and Environmental Engineering  

Adnan, Sarmad, 2001. Adjunct Associate Professor in Mechanical Engineering and Materials Science  

Ajayan, Pulickel M., 2007. Benjamin M. and Mary Greenwood Anderson Professor in Mechanical Engineering and Materials Science and of Chemistry  
BTech (1985) Banaras Hindu University, India; PhD (1989) Northwestern University

Akin, John Edward, 1983. Professor of Mechanical Engineering and Computational and Applied Mathematics  
BS (1964) Tennessee Polytechnic Institute; MS (1966) Tennessee Technological University; PhD (1968) Virginia Polytechnic Institute

Alemany, Lawrence B., 1994. NMR Manager, Senior Research Scientist, Lecturer of Chemistry  
BS (1975) City College of New York; PhD (1980) University of Chicago

Alexander, David, 2003. Professor of Physics and Astronomy  
BSc (1985), PhD (1988) University of Glasgow, Scotland

Alford, John R., 1985. Associate Professor of Political Science  
BS (1975), MPA (1977) University of Houston; MA (1980), PhD (1981) University of Iowa

Alvarez, Pedro J. J., 2003. George R. Brown Professor, Department Chair of Civil and Environmental Engineering  

Al-Zand, Karim, 2002. Lynette S. Autrey Associate Professor of Composition and Theory  

Amos, Christopher I., 2001. Adjunct Professor of Statistics  
BA (1980) Reed College; MS (1985), PhD (1988) Louisiana State University Medical Center

Anandasabapathy, Sharmila, 2007. Adjunct Assistant Professor in Biotechnology and Theory  
BA (1993) Yale University; MD (1998) Albert Einstein College of Medicine

Anderson, Edward, 2006. Lecturer in Classical Studies  

Anderson, John B., 1975. W. Maurice Ewing Chair in Oceanography, Professor of Earth Science  
BS (1968) University of South Alabama; MS (1970) University of New Mexico; PhD (1972) Florida State University

Anderson, Shannon, 2001. Associate Professor of Management  

Anding, Roberta, 1997. Lecturer in Kinesiology  
BS (1977), MS (1980) Louisiana State University

Annarapagada, Ananth, 2005. Adjunct Professor in Chemical and Biomolecular Engineering  
BTech (1985) A.C. College of Technology; PhD (1989) University of Michigan

Antoulas, Athanasios C., 1985. Professor in Electrical and Computer Engineering  
Dip. in Electrical Engineering (1975), Dip. in Mathematics (1975), PhD (1980) Eidgenössische Technische Hochschule, Switzerland

Aranda Jr, José F., 1994. Associate Professor of English, Chair of the Department of Hispanic Studies, Chair of the Department of French Studies  

Arbizu-Sabater, Victoria, 2006. Lecturer of Spanish  

Aresu, Bernard, 1977. Professor of French Studies, Master of Lovett College  
Licence es lettres (1967) Université de Montpellier, France; PhD (1975) University of Washington

Arnold, Laura, 2008. Adjunct Professor in Management

Arnold, William, M., 2009. Professor in the Practice of Management  
AB (1966) Cornell University; MA (1968), MBA (1972) University of Texas–Austin

Aschwanden, Markus, 2007. Adjunct Professor in Physics and Astronomy  
MS (1982) University of Zurich; PhD (1987) ETH Zurich

Ashmore, Jean, 2002. Lecturer on Education Certification  
BA (1973) University of California–Los Angeles; MS (1976) California State University

Atherholdt, Robert, 1984. Professor of Oboe  
BMus (1976), MMus (1977) Juilliard School of Music

BA (1971) Rice University; MBA (1977), PhD (1983) University of Texas–Austin

Atkinson, E. Neely, 1985. Adjunct Professor of Statistics  
Atlee, Carl W., 2008. Lecturer in Spanish  

Awad, Maher M., 2005. Senior Lecturer of Arabic  
BA (1988) California State University, MA (1990) University of Colorado

Azevedo, Ricardo, 2005. Adjunct Assistant Professor in Ecology and Evolutionary Biology  
BS (1992) University of Lisbon, Portugal; PhD (1997) University of Edinburg, UK

Back, Kerry E., 2009. J. Howard Creekmore Professor of Management  
BA (1978) Western Kentucky University; PhD (1983) University of Kentucky

Bader, Graham, 2008. Assistant Professor of Art History  

Badgwell, Thomas A., 2000. Adjunct Associate Professor in Chemical and Biomolecular Engineering  
BS (1982) Rice University; MS (1990), PhD (1992) University of Texas–Austin

Bado, Richard, 2005. Professor of Opera, Director of the Opera Studies Program  
BM (1981) West Virginia University; MM (1983) Eastman School of Music

Baggery, Keith A., 2004. Adjunct Associate Professor of Statistics  
BA (1990), MA (1993), PhD (1994) Rice University

Baggett, L. Scott, 1999. Lecturer on Statistics  
BS (1980) University of Oklahoma; MS (1985) Texas A&M University; MS (1994) University of Arkansas;  
PhD (1999) Rice University

Bailey, Nancy Gisbrecht, 1997. Lecturer on Vocal Literature  
BA (1975) University of the Redlands; MA (1981), PhD (1985) University of Southern California

BA (1990), JD (1993) University of Houston; MBA (1997) Rice University

Balabanlilar, Lisa A., 2007. Assistant Professor of History, Associate of Wiess College  

Ball, Zachary T., 2006. Assistant Professor of Chemistry  

Banon, H. Hugh, 2007. Adjunct Associate Professor in Mechanical Engineering and Materials Science  
BS (1976) University of Illinois at Urbana; MS (1978), PhD (1980) Massachusetts Institute of Technology

Baraniuk, Richard G., 1992. Victor E. Cameron Professor in Electrical and Computer Engineering  

Baring, Matthew G., 2000. Associate Professor of Physics and Astronomy  

Barlow, Tani E., 2008. T. T. and W. F. Chao Professor of Asian Studies, Professor of History, Director of the T.T. and Wei Fong  
Chao Center for Asian Studies  
BA (1975) San Francisco State University; MA (1979), PhD (1985) University of California–Davis

Barnett, Gregory, 2002. Associate Professor of Musicology  

Barrera, Enrique V., 1990. Professor of Mechanical Engineering and Materials Science, Department Chair of Mechanical Engineering and Material Science  
BS (1979), MS (1985), PhD (1987) University of Texas–Austin

Barrett, Deborah, 1998. Professor in the Practice of Professional Communication  
BA (1972), MA (1977) University of Houston; PhD (1983) Rice University

Barron, Andrew R., 1995. Charles W. Duncan Jr–Welch Professor of Chemistry, Professor of Materials Science  
BS (1985), PhD (1986) Imperial College of Science and Technology, University of London

Bartel, Bonnie, 1995. Ralph and Dorothy Looney Professor of Biochemistry and Cell Biology  
BA (1983) Bethel College; PhD (1990) Massachusetts Institute of Technology

Batsell, Richard R., 1980. Jesse H. Jones Distinguished Associate Professor of Management, Associate Professor of Psychology  
BA, BBA (1971), PhD (1976) University of Texas–Austin

Bayazitoglu, Vildiz, 1977. Harry S. Cameron Professor in Mechanical Engineering  
BS (1967) Middle East Technological University; MS (1969), PhD (1974) University of Michigan

Beal, Daniel J., 2004. Assistant Professor of Psychology  
BA (1994) Florida State University; MS (1996), PhD (2000) Tulane University

Beason Abmayr, Beth, 2001. Lecturer in Biochemistry and Cell Biology  
BS (1990) Auburn University; PhD (1996) University of Alabama
Beauchamp, Michael S., 2005. Adjunct Assistant Professor in Bioengineering and Psychology

Beckingham, Kathleen M., 1980. Professor of Biochemistry and Cell Biology
BA (1967), PhD (1972) University of Cambridge

Bedient, Philip B., 1975. Herman Brown Professor of Engineering
BS (1969), MS (1972), PhD (1975) University of Florida

Bednar, J. Bee, 1997. Adjunct Professor in Computational and Applied Mathematics
BS (1962) Southwest Texas State University; MA (1964), PhD (1968) University of Texas–Austin

Bedrossian, Nazareth, 2007. Adjunct Associate Professor in Mechanical Engineering and Materials Science

Begley, Charles E., 1989. Adjunct Associate Professor of Economics
BS (1969) Northern Arizona University; MA (1972), PhD (1978) University of Texas–Austin

Behr, Marek, 1999. Adjunct Professor in Chemical and Biomolecular Engineering
BS (1988), PhD (1992) University of Minnesota

Behringer, Richard, 2008. Adjunct Professor of Biochemistry and Cell Biology
PhD (1986) University of South Carolina

Beier, Margaret E., 2004. Assistant Professor of Psychology

Bejan, Camelia, 2005. Assistant Professor of Economics


Bennett, George N., 1978. E. Dell Butcher Professor of Biochemistry and Cell Biology
BS (1968) University of Nebraska; PhD (1974) Purdue University

Bennett, Matthew, 2009. Assistant Professor of Biochemistry and Cell Biology
BS (2000), PhD (2006) Georgia Institute of Technology

Berry, Donald A., 2000. Adjunct Professor of Statistics
AB (1965) Dartmouth College; MA (1967), PhD (1971) Yale University

Bezúr, Anikó, 2008. Adjunct Assistant Professor of Chemistry
BA (1990), MS (1994) Brandeis University; PhD (2003) University of Arizona

Bhatavadekar, Neel, 2008. Adjunct Assistant Professor in Bioengineering

Bidani, Akhil, 1994. Adjunct Professor in Electrical and Computer Engineering
BS (1969) Punjab University, India; PhD (1975) University of Houston; MD (1981) University of Texas Medical Branch–Galveston

Billups, W. Edward, 1970. Professor of Chemistry

Bissada, K. K., 1996. Adjunct Professor of Earth Science
BSc (1962) University of Assiut, Egypt; MS (1965), PhD (1967) Washington University

Biswal, Sibani Lisa, 2006. Assistant Professor in Chemical and Biomolecular Engineering

Bixby, Robert, 2008. Research Professor in the Practice of Management
BS (1968) University of California–Berkeley; MS (1971), PhD (1972) Cornell University

Black, Earl, 1993. Herbert S. Autrey Professor of Political Science
BA (1964) University of Texas–Austin; PhD (1968) Harvard University

Blackburn, James B., 1981. Professor in the Practice of Environmental Law
BA (1969), JD (1972) University of Texas–Austin; MS (1974) Rice University

Bloem, Suzana Maria Campos Pinto, 1999. Lecturer in Portuguese
BA (1970) Pontificia Universidade Católica de Campinas, Brazil

Blumenthal-Barby, Martin, 2009. Assistant Professor of German Studies
MA, MPhil (2006), PhD (2008) Yale University

Bogomolnaia, Anna, 2002. Associate Professor of Economics

Bolech, Carlos J., 2005. Assistant Professor of Physics and Astronomy
Boles, John B., 1981. William Pettus Hobby Professor of History, Associate of Will Rice College
BA (1965) Rice University; PhD (1969) University of Virginia

Bondos, Sarah, 2004. Adjunct Assistant Professor in Biochemistry and Cell Biology

Bongmba, Elias K., 1995. Harry and Hazel Chavanne Professor in Christian Theology, Professor of Religious Studies

Borcea, Liliana, 1996. Noah Harding Professor of Computational and Applied Mathematics

Bordeaux, Janice, 1994. Associate Dean of Engineering, Adjunct Assistant Professor of Psychology

Borle, Sharad, 2003. Associate Professor of Management

Boshermitzian, Michael, 1982. Professor of Mathematics

Bottro, Jean-Yves, 1996. Adjunct Professor in Civil and Environmental Engineering
Docteur d’Etat es Sciences Physiques (1979) Université de Nancy, France

Boyler, Dominic C., 2009. Adjunct Professor of Anthropology

Boylan, Richard Thomas, 2005. Associate Professor of Economics

Braam, Janet, 1990. Professor and Chair of Biochemistry and Cell Biology
BS (1980) Southern Illinois University; PhD (1985) Sloan-Kettering Division of Cornell Graduate School of Medical Sciences

Brace, Paul, 1996. Clarence L. Carter Professor of Political Science

Brannon, Alan D., 2002. Adjunct Assistant Professor of Earth Science
BS (1985) Oregon State University; MS (1987) University of Oregon; PhD (1992) University of Alberta

Brandt, Anthony K., 1998. Associate Professor of Composition and Theory

Branton, Regina, 2000. Assistant Professor of Political Science

Brattey, Jennifer L., 2006. Assistant Professor of Sociology

Brennan, Marcia, 2001. Associate Professor of Art History

Brennan, Richard G., 2007. Adjunct Professor of Biochemistry and Cell Biology
BA (1977) Boston University; PhD (1984) University of Wisconsin–Madison

Brinkley, Douglas G., 2007. Professor of History, Fellow in the James A. Baker III Institute for Public Policy

Brito, Dagobert L., 1984. George A. Peterkin Professor of Political Economy

Brody, Baruch, 1975. Andrew W. Mellon Professor in Humanities
BA (1962) Brooklyn College; MA (1965), PhD (1967) Princeton University

Brogdon-Gómez, N. Patricia, 2000. Senior Lecturer of Spanish

Broker, Karin L., 1980. Professor of Visual Arts
BFA (1972) University of Iowa; MFA (1980) University of Wisconsin–Madison

Brooks, Philip R., 1964. Professor of Chemistry
BS (1960) California Institute of Technology; PhD (1964) University of California–Berkeley

Brown, Barry W., 1970. Adjunct Professor of Statistics
BS (1959) University of Chicago; MS (1961), PhD (1963) University of California–Berkeley

BA (1969), MA (1972) Texas Tech University; PhD (1977) University of Pennsylvania

Brown, James N., 1992. Professor of Economics
BA (1975) University of Redlands; MA (1975), PhD (1980) University of Chicago
Brown, Richard, 1984. Professor of Percussion, Chair of Percussion and Harp
BME (1969) Temple University; MMus (1971) Catholic University of America

Brownell, William, 2000. Adjunct Professor in Bioengineering
SB (1968), PhD (1973) University of Chicago

Browning, Logan D., 1991. Lecturer in English; Editor, SEL Studies in English Literature, 1500–1900
BA (1977) University of the South; MA (1980) Oxford University; PhD (1999) University of North Carolina–Chapel Hill

Bryant, John B., 1981. Henry S. Fox Sr. Professor of Economics, Professor of Management

Buchman, Rachel, 2005. Lecturer in Music
BA (1978) Vassar College

Bufetov, Alexander I., 2006. Edgar Odell Lovett Assistant Professor of Mathematics

Bullock, Evan, 2009. VIGRE-Lovett Instructor of Mathematics

Burch, James L., 1990. Adjunct Professor of Physics and Astronomy
BS (1964) St. Mary's University; PhD (1968) Rice University; MA (1973) George Washington University

Burghart, Charles G., 2009. Adjunct Professor of Mechanical Engineering and Materials Science

Burnett, Sarah A., 1992. Associate Professor of Psychology
BS (1990) University of Houston; MS (1991) Rice University; PhD (1994) University of Texas

Byrne, John H., 1994. Adjunct Professor of Psychology and Electrical and Computer Engineering
BS (1968), MA (1970), PhD (1973) Rice University

Byrne, Michael, 1999. Associate Professor of Psychology

Caldwell, Peter C., 1994. Professor of History

Cambor, Kathleen, 2007. Visiting Professor of Creative Writing
BS (1968) University of California–Berkeley; MA (1987) University of Houston

Camp, Stephanie M. H., 2008. Associate Professor of History

Campagna, Joseph A., 2006. Assistant Professor of English Literature

Campbell, Lesley, 2007. Huxley Research Instructor of Ecology and Evolutionary Biology
BSc (1998), MSc (2001) University of Guelph; PhD (2006) Ohio State University

Cannady, William Tillman, 1964. Professor of Architecture
BArch (1961) University of California–Berkeley; March (1962) Harvard University

Cantor, Scott, 2006. Adjunct Professor of Statistics

Caprette, David R., 1992. Lecturer in Biochemistry and Cell Biology
BS (1974) Case Western Reserve University; MS (1979), PhD (1982) Cleveland State University

Carroll, Beverlee Jill, 1995. Adjunct Associate Professor of Religious Studies

Carroll, Michael M., 1988. Burton J. and Ann M. McMurry Professor of Engineering in Mechanical Engineering and Computational and Applied Mathematics
BA (1958), MA (1959) University College Galway; PhD (1964) Brown University

Carroll, Royce A., 2007. Assistant Professor of Political Science

Carson, Daniel D., 2009. Dean of the Wiess School of Natural Sciences, Schlumberger Chair of Advanced Studies and Research, Professor of Biochemistry and Cell Biology
BA (1975) University of Pennsylvania; PhD (1979) Temple University

Carter, Richard, 1997. Adjunct Professor of Computational and Applied Mathematics
BS (1979) Mississippi State University; PhD (1986) Rice University
Cartwright Jr, Robert S., 1980. Professor of Computer Science  

Casbarian, John Joseph, 1973. Associate Dean of the School of Architecture, Professor of Architecture  
BA (1969) Rice University; MFA (1971) California Institute of the Arts; BArch (1972) Rice University

Cates, Mary Susan, 2003. Lecturer in Biochemistry and Cell Biology  
BS (1995) University of Houston; PhD (2000) Rice University

Cavallaro, Joseph R., 1988. Professor in Electrical and Computer Engineering and Computer Science  

Cecchini, Fabiana, 2006. Lecturer of Italian  

Chan, Anthony A., 1993. Professor of Physics and Astronomy  

Chance, Jane, 1973. Andrew W. Mellon Distinguished Chair, Professor in English  
BA (1967) Purdue University; MA (1968), PhD (1971) University of Illinois

Chang-Diaz, Franklin R., 1998. Adjunct Professor of Physics and Astronomy  
BS (1975) University of Connecticut; PhD (1977) Massachusetts Institute of Technology

Chapman, Walter G., 1990. William W. Akers Professor in Chemical and Biomolecular Engineering  

Chen, Lilly C., 1980. Senior Lecturer of Chinese  
BS (1961) National Taiwan University; MA (1969), PhD (1974) University of Illinois–Urbana-Champaign

Chen, Shih-Hui, 2000. Associate Professor of Composition and Theory  

Chen, Wei, 2005. Adjunct Professor in Civil and Environmental Engineering  
BS (1992) Nankai University, Tianjin, China; MS (1997), PhD (2000) Rice University

Chen, Xiaohong Denise, 2008. Adjunct Professor of Bioengineering  
BS (1998) Zhejiang University, Hangzhou, China; MS (1999), PhD (2003) University of Illinois–Urbana-Champaign

Chen, Wei, 2005. Adjunct Professor of Management  

Chung, Ill-Min, 2008. Adjunct Professor of Bioengineering  
BS (1980), MS (1988) Konkuk University, Korea; PhD (1994) University of Illinois–Urbana-Champaign

Citron, Marcia J., 1976. Martha and Henry Malcolm Lovett Distinguished Service Professor of Musicology  
BA (1966) Brooklyn College; MA (1968), PhD (1971) University of North Carolina

Ciufofoli, Marco A., 2000. Adjunct Professor of Chemistry  
BS (1978) University of Florence; MS (1979), PhD (1980) University of Illinois–Urbana-Champaign

Clark Jr, John W., 1968. Professor in Electrical and Computer Engineering and Bioengineering  
BS (1962) Christian Brothers College; MS (1965), PhD (1967) Case Western Reserve University

Clarke, Joseph N., 2007. Assistant Professor of English  

Clementi, Cecilia, 2001. Wiess Career Development Chair, Associate Professor of Chemistry and of Chemical and Biomolecular Engineering  

Coogan, Daniel, 2003. Assistant Professor of History, Associate of Lovett College  

Cole, Blaine J., 2005. Adjunct Professor of Ecology and Evolutionary Biology  
BS (1975) University of Kansas; MA (1977), PhD (1979) Princeton University
Coleman, James S., 2007. Vice Provost for Research, Professor of Ecology and Evolutionary Biology

Colvin, Vicki L., 1996. Professor of Chemistry and of Chemical and Biomolecular Engineering
BS (1988) Stanford University; PhD (1994) University of California–Berkeley

Comer, Krista, 1998. Associate Professor of English

Connelly, Brian, 1984. Artist Teacher of Piano and Piano Chamber Music and Accompanying
BMus (1980), MMus (1983) University of Michigan

Cook, David, 2001. Associate Professor of Religious Studies

Cooper, Jennifer, 2006. Lecturer of Humanities
BA (1990) Rice University

Cooper, Keith D., 1990. L. John and Ann H. Doerr Chair in Computational Engineering, Professor of Computer Science, Professor in Electrical and Computer Engineering
BS (1978), MA (1982), PhD (1983) Rice University

Cooper, Tim, 2008. Adjunct Assistant Professor of Ecology and Evolutionary Biology
PhD (2000) University of Canterbury, New Zealand

Copeland, Benjamin W., 2007. Visiting Associate Professor of Naval Science, Executive Officer
MS (1997) University of South Carolina

Corcoran, Marjorie D., 1980. Professor of Physics and Astronomy
BS (1972) University of Dayton; PhD (1977) Indiana University

Cording, Margaret, 2003. Assistant Professor of Management

Cornwell, John M., 2007. Associate Vice President for Institutional Effectiveness, Adjunct Professor in Psychology
BA (1977) Capital University; MS (1982) Georgia Institute of Technology; PhD (1987) University of Tennessee

Costello, Leo, 2005. Adjunct Professor of Art History

Covington, Michael F., 2008. Assistant Professor of Biochemistry and Cell Biology

Cox, Alan L., 1991. Associate Professor of Computer Science and in Electrical and Computer Engineering

Cox, Dennis, 1992. Professor of Statistics
BA (1972) University of Colorado; MS (1976) University of Denver; PhD (1980) University of Washington

Cox, Edward L., 1989. Associate Professor of History, Associate of Martel College
BA (1970) University of the West Indies; MA (1973), PhD (1977) Johns Hopkins University

Cox, Kenneth R., 2000. Professor in the Practice of Chemical and Biomolecular Engineering
BS (1974) Ohio State University; MS (1977), PhD (1979) University of Illinois

Cox, Steven J., 1988. Professor of Computational and Applied Mathematics, Master of Sid Richardson College

Crawford, Steven, 2007. Assistant Professor of Management

Creek, Jefferson L., 2007. Adjunct Professor in Chemical and Biomolecular Engineering
BS (1967) Middle Tennessee State University; MS (1969), PhD (1975) Southern Illinois University–Carbondale

Crocker, Ronnie, 2005. Lecturer in Humanities
BA (1985) Texas A&M University; MBA (1993) College of William and Mary

Cronin, Justin C., 2003. Professor of English

Crosswhite, Katherine, 2004. Assistant Professor of Linguistics

Crowell, Steven G., 1983. Joseph and Joanna Nazro Mullen Professor of Philosophy

Crull, Brigitte, 1999. Senior Lecturer of French
Licence d’enseignement (1970) University of Caen, France; MA (1991) University of Houston

Cruz, Miguel, 2007. Adjunct Assistant Professor in Bioengineering
BS (1983) University of Puerto Rico; PhD (1989) University of Puerto Rico–School of Medicine
Cummins-Muñoz, Elizabeth, 2007. Lecturer in Spanish

Curley, Steven A., 2007. Adjunct Professor in Mechanical Engineering and Materials Science
BS (1978) University of New Mexico; MD (1982) University of Texas Medical School–Houston

Cuthbertson, Gilbert Morris, 1963. Professor of Political Science
BA (1959) University of Kansas; PhD (1963) Harvard University

Cutler, Scott E., 2001. Professor in the Practice of Computer Technology
BS (1973), MS (1973), PhD (1976) Massachusetts Institute of Technology

Dabak, Anand, 2003. Adjunct Associate Professor in Electrical and Computer Engineering

Dabney, James B., 2000. Adjunct Associate Professor in Mechanical Engineering and Materials Science

Damanik, David, 2006. Professor of Mathematics

Damjanovic’ Daniela, 2009. Assistant Professor of Mathematics

Danbom, Stephen, 2001. Adjunct Professor of Earth Science
BS (1966), MS (1969) Texas Tech University; PhD (1975) University of Connecticut

Dane, Erik, 2007. Assistant Professor of Management

Dannemiller, James L., 2003. Lynette S. Autrey Professor of Psychology, Director of the Neurosciences Program
BA (1974) Northwestern University; PhD (1983) University of Texas–Austin

Dasgupta, Rajdeep, 2008. Assistant Professor of Earth Science
BSc (1998), MSc (2000) Jadavpur University, India; PhD (2006) University of Minnesota

Datta, Evelyne D., 1987. Senior Lecturer of French
MA (1979) University of Houston; PhD (1987) Rice University; Maîtrise de Philologie romane (1966) University of Ghent, Belgium

BS (1999), MS (2000) Texas A&M University; PhD (2005) Rice University

Davydycheva, Sofia, 2009. Adjunct Associate Professor of Computational and Applied Mathematics
BA (1984), PhD (1989) Moscow State University

deBlanc, Phillip C., 2007. Lecturer in Civil and Environmental Engineering

DeChambrier, Janet, 1997. Artist Teacher of Opera Studies
BM (1975), MM (1980) Northwestern University School of Music

DeConick, April D., 2006. Ida Carroll Turner and Percy Turner Professor of Religious Studies

Deem, Michael W., 2002. John W. Cox Professor in Biochemical and Genetic Engineering, Professor of Physics and Astronomy
BS (1991) California Institute of Technology; PhD (1994) University of California–Berkeley

De Luna, Kathryn M., 2009. Assistant Professor of History

DerHosepian, Joan, 2001. Artist Teacher of Viola
BM (1991), MM (1994) Eastman School of Music

Derrick, Scott S., 1990. Associate Professor of English
BA (1975) Albright College; MA (1978) University of Chicago; PhD (1987) University of Pennsylvania

DeVore, Ronald A., 2009. Adjunct Professor in Electrical and Computer Engineering
BS (1964) Eastern Michigan University; PhD (1967) Ohio State University

Dholakia, Utpal, 2001. Mackey/Simons Distinguished Associate Professor of Management

Diamond, John, 2006. Adjunct Assistant Professor in Economics

Diaz, Viviana, 2008. Lecturer in Spanish

Diaz-Saiz, Joaquin, 2000. Adjunct Associate Professor of Statistics
BS (1966) Instituto Tecnologico y de Estudios Superiores de Monterrey; MS (1968) Centro Interamericano de Enseñanza de Estadística; PhD (1985) Oklahoma State University
Dick, Andrew J., 2007. Assistant Professor in Mechanical Engineering and Materials Science 
BS (2003), MS (2003) Rochester Institute of Technology; PhD University of Maryland–College Park

Dick, Christopher H., 2005. Adjunct Professor in Electrical and Computer Engineering 
BSci (1984), PhD (1996) La Trobe University, Melbourne, Australia

Dickens, Gerald R., 2001. Professor of Earth Science, Master of Martel College 
BS (1989) University of California, Davis; MS (1993), PhD (1996) University of Michigan

Dickinson, Debra, 1993. Artist Teacher of Opera Studies 
BS (1975) Northwestern University; MA (1991) Hunter College

Dickinson, Mary, 2006. Adjunct Associate Professor in Bioengineering 

Diddel, Roberta M., 1985. Instructor of Psychology 
BA (1976) Wesleyan University; PhD (1989) Boston University

Diehl, Michael, 2005. Assistant Professor in Bioengineering and in Chemistry 

Disch, James G., 1973. Associate Professor of Kinesiology 
BS (1969), MEd (1970) University of Houston; PED (1973) Indiana University

BA (1973), MA (1976), PhD (1976) University of Oxford

Djerejian, Edward P., 1994. Edward A. and Hermena Hancock Kelly University Chair for Senior Scholars, Janice and Robert McNeir Director of the James A. Baker III Institute for Public Policy 
BS (1960), Doctor of Humanities (Hon) (1992) Georgetown University

Do, Kim-Anh, 1999. Adjunct Professor of Statistics 
BS (1983) Queensland University; MS (1985), PhD (1990) Stanford University

Dobelman, John, 2008. Lecturer of Statistics, Director of Professional Master’s Program 

Dodds, Stanley A., 1977. Associate Professor of Physics and Astronomy, Associate of Wiess College 
BS (1968) Harvey Mudd College; PhD (1975) Cornell University

Doerr, Harold K., 2004. Adjunct Assistant Professor of Psychology 
BA (1979) Rutgers University; MD (1987) University of Texas Health Science Center

Dominey, Wallace J., 2008. Faculty Fellow in Ecology and Evolutionary Biology 
BA (1975) University of Texas; PhD (1981) Cornell University

Dong, Jing-Fei, 2007. Adjunct Associate Professor in Bioengineering 
MD (1984) Lanzhou Medical School; MS (1989) Tianjin Neurology Institute, Tianjin Medical College; PhD (1993) University of Birmingham

Dongarra, Jack, 1988. Adjunct Professor of Computer Science 
BS (1972) Chicago State University; MS (1973) Illinois Institute of Technology; PhD (1980) University of New Mexico

Doody, Terrence Arthur, 1970. Professor of English 

Dove, Charles, 2001. Lecturer of Film 

Dravis, Jeffrey J., 1987. Adjunct Professor of Earth Science 
BS (1971) St. Mary’s University; MS (1977) University of Miami; PhD (1980) Rice University

Drezek, Rebekah Anna, 2002. Professor in Bioengineering and in Electrical and Computer Engineering 
BSE (1996) Duke University; PhD (2001) University of Texas–Austin

Driskill, Linda P., 1970. Professor of English 
BA (1961), MA (1968), PhD (1970) Rice University

Drxler, André W., 1987. Professor of Earth Science 
MS (1978) University of Neuchatel; PhD (1984) University of Miami

Drusche1, Peter, 1994. Research Professor in Computer Science 
Dipl-Ing (1986) Fachhochschule Munich, Germany; MS (1990), PhD (1994) University of Arizona

D'Souza, Rena N., 2004. Adjunct Professor in Bioengineering 
BDS (1977) University of Bombay, India; MS (1985), PhD (1987) University of Texas Health Science Center–Houston

Du, Rui-Rui, 2004. Professor of Physics and Astronomy 
BS (1982) Fudan University; PhD (1990) University of Illinois

Duarte, Jefferson, 2008. Gerald D. Hines Associate Professor in Real Estate Finance, Associate Professor in Management 

Dubrowski, Daniel, 2008. Adjunct Professor in Management 
Dudey, Marc Peter, 1990. Associate Professor of Economics

Dueñas-Osorio, Leonardo, 2006. Assistant Professor in Civil and Environmental Engineering

Dufour, Reginald J., 1975. Professor of Physics and Astronomy

Dugan, Brandon, 2004. Assistant Professor of Earth Science

Dunham, Amy E., 2007. Assistant Professor in Civil and Environmental Engineering

Dunham, James E., 2001. Professor of Viola and Chamber Music
BFA (1972), MFA (1974) California Institute of the Arts

Dunn, Susan, 2002. Lecturer in Voice

Dunning, F. Barry, 1972. Sam and Helen Worden Professor of Physics and Astronomy
BSc (1966), PhD (1969) University College, London

Duno-Gottberg, Luis, 2008. Associate Professor of Spanish

Duston, Karen, 2005. Adjunct Professor in Civil and Environmental Engineering

Dutta, Indranil, 2008. Lecturer in Linguistics, Asian Studies, and Center for the Study of Languages

Ecklund, Elaine Howard, 2008. Assistant Professor of Sociology

Ecklund, Karl M., 2008. Assistant Professor of Physics and Astronomy

Eich, Elizabeth, 2006. Lecturer in Biochemistry and Cell Biology
BS (1998) Texas A&M University; PhD (2005) Rice University

Eisner, Elmer, 1988. Adjunct Professor of Computational and Applied Mathematics
BS (1939) Brooklyn College; PhD (1943) Johns Hopkins University

El-Bakry, Amr, 1998. Adjunct Associate Professor of Computational and Applied Mathematics

El-Dahdah, Fares, 1996. Associate Professor of Architecture

El-Gamal, Mahmoud A., 1998. Chair of Islamic Economics, Finance, and Management; Professor of Economics; Professor of Statistics

Elhaik, Tarek, 2008. Assistant Professor of Anthropology

Ellenweig, Sarah, 2000. Associate Professor of English

Ellison, Paul V. H., 1975. Lynette S. Autrey Professor of Double Bass, Chair of Strings
BME (1965) Eastern New Mexico University; MM (1966) Northwestern University

Embree, Mark P., 2001. Professor of Computational and Applied Mathematics

Eden, Christian, 2003. Associate Professor of German Studies

Emerson, Michael O., 1999. Allyn and Gladys Cline Professor of Sociology

Engel, Paul S., 1970. Professor of Chemistry
BS (1964) University of California at Los Angeles; PhD (1968) Harvard University

Engelhardt Jr., Hugo Tristram, 1982. Professor of Philosophy
BA (1963), PhD (1969) University of Texas at Austin; MD (1972) Tulane University School of Medicine
Englebretson, Robert, 2000. Associate Professor of Linguistics

Ensor, Katherine Bennett, 1987. Professor of Statistics

Epstein, Marc J., 1998. Distinguished Research Professor of Management
BA (1968) San Francisco State University; MBA (1970), PhD (1973) University of Oregon

Etnyre, Bruce, 1984. Professor of Kinesiology
BS (1973) Valparaiso University; MS (1977) Purdue University; PhD (1984) University of Texas–Austin

Fabian, Marian, 1998. Senior Faculty Fellow in Biochemistry and Cell Biology

Fagan, Melinda B., 2007. Assistant Professor in Philosophy

Fang, Songying, 2009. Assistant Professor of Political Science

Fanger, Claire, 2009. Assistant Professor of Religious Studies
BA (1979) Reed College; MA (1983) Boston University; MA (1987), PhD (1994) University of Toronto

Farach-Carson, Mary C., 2009. Professor of Biochemistry and Cell Biology and Bioengineering
BS (1978) University of South Carolina; PhD (1982) Medical College of Virginia/Virginia Commonwealth University

Faubion, James D., 1993. Professor of Anthropology, Associate of Jones College

Feeback, Daniel L., 1997. Adjunct Associate Professor of Biochemistry and Cell Biology
BS (1978) Missouri Western State College; PhD (1982) University of Oklahoma Health Sciences Center

Fernandez, Ariel, (2005) Karl F. Hasselmann Professor of Bioengineering

Ferrill, June O., 1998. Professor in the Practice of Managerial Studies, Lecturer in Natural Sciences
BA (1964) University of Texas; MEd (1971) University of Houston; PhD (1977) University of Michigan

Ferris, David, 1998. Associate Professor of Musicology

Festa, Elizabeth A., 2007. Lecturer in Communication

Fette, Julie, 2005. Assistant Professor in French Studies

Finger, Jerry E., 1996. Adjunct Professor in the Practice of Management
BA (1974) University of Pennsylvania

Finley, Dawn, 2001. Associate Professor of Architecture
BS (1993) University of Michigan; March (1999) Rice University

Fischer, Cornelius, 2009. Adjunct Assistant Professor in Earth Sciences
PhD (2002) Institut für Gwissenschaften, Friedrich-Schiller Universität, Jena, Germany

Fischer, Jeanne K., 1992. Artist Teacher of Piano and Collaborative Skills

Fischer, Norman, 1992. Professor of Cello
BMus (1971) Oberlin College

Fisher, Ronald E., 2003. Adjunct Assistant Professor in Psychology
BA (1982) Brandeis University; PhD (1990), MD (1991) Baylor College of Medicine

Fitzgerald, Timothy J., 2008. Lecturer of History

Flannery, Rachel Winer, 2004. Adjunct Assistant Professor in Psychology

Flatt, Robert N., 1987. Adjunct Professor of Management

Fleisher, Jeffrey B., 2007. Assistant Professor of Anthropology
BA (1992), MA (1997), PhD (2003) University of Virginia

Fleming, Jefferson D., 1993. Houston Endowment Professor of Finance, Associate Dean of Academic Affairs
Fletcher, Katherine, 2007. Adjunct Lecturer on Electrical and Computer Engineering
BS, BA (1987), MS (1993) Rice University

Fofanov, Yuriy, 2008. Adjunct Associate Professor of Ecology and Evolutionary Biology
MS (1977), PhD (1988) Kuibyshev (Samara) State University, USSR

Foote, Jill, 2003. Lecturer of Management

Forman, Robin, 1987. Dean of Undergraduates, Professor of Mathematics

Fossati, Giovanni, 2001. Assistant Professor of Physics and Astronomy
MS (1994) Universita degli Studi Milano; PhD (1998) International School for Advanced Studies, Italy

Fowler, Robert, 2006. Adjunct Associate Professor of Computer Science

Fox, David Stephen, 1990. Lecturer of Architecture
BA (1975), BArch (1975) Rice University

Fox, Robert O., 2003. Adjunct Professor of Biochemistry and Cell Biology
BS (1976) University of Pittsburgh; MPhil (1978), PhD (1981) Yale University

Frankino, Tony, 2008. Adjunct Assistant Professor in Ecology and Evolutionary Biology
BS (1990), MS (1993) Illinois State University; PhD (2000) Indiana University

Fraser, Charles D., 2005. Adjunct Professor in Bioengineering
BA (1980) University of Texas at Austin; MD (1984) University of Texas Medical Branch–Galveston

Fraser, Charles D., 2005. Adjunct Professor in Bioengineering
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Frigon, David, 2008. Adjunct Professor in Biochemistry and Cell Biology
BS (1976) University of Pittsburgh; MPhil (1978), PhD (1981) Yale University

Fukuyama, Tohru, 1995. Adjunct Professor of Chemistry
BS (1971), MS (1973) Nagoya University; PhD (1977) Harvard University

Gabbiani, Fabrizio, 2004. Adjunct Assistant Professor of Computational and Applied Mathematics
MS (1989) Swiss Federal Institute of Technology, Switzerland; PhD (1992) Institute of Theoretical Physics, Switzerland

Gaille, S. Scott, 2008. Adjunct Professor of Management
BA (1992) University of Texas–Austin; JD (1995) University of Chicago

Gao, Zhiyong, 1986. Associate Professor of Mathematics
BA (1979) Fudan University; PhD (1984) State University of New York–Stony Brook

Gardner, Shifra, 2009. Lecturer of Hebrew
BA (1971) Hebrew University

Garrou, Blair, 2008. Adjunct Professor in Management
BS (1994) Washington and Lee University

Gaug, Christa, 1998. Senior Lecturer of German
Mag phil (1985) University of Vienna, Austria; MA (1994), PhD (2000) University of Texas–Austin

Gaytán, Raquel, 1996. Senior Lecturer of Spanish

George, Jennifer M., 1999. Mary Gibbs Jones Professor of Management, Professor of Psychology

Georges, Eugenia, 1986. Professor of Anthropology

Geurts, Franciscus Johannes Maria, 2008. Assistant Professor of Physics and Astronomy

Ghorbel, Fathi, 1994. Professor of Mechanical Engineering and Materials Science and Bioengineering

Gibson, Brian, 1996. Lecturer in Kinesiology
BA (1990), MA (1993), PhD (1997) University of Texas–Austin

Gibson, Quentin H., 1996. Distinguished Faculty Fellow in Biochemistry and Cell Biology
MB (1941), MD (1944), PhD (1947) Queen’s University, Belfast

Gilabert, Eva Franch, 2008. Visiting Wortham Fellow

Gilbertson, Michelle, 2009. Wiess Instructor of Chemistry
BS (1990) Valparaiso University; MS (1992), PhD (1994) Northwestern University
Gilbertson, Scott R., 2006. Adjunct Professor of Chemistry

Gilheart, Timothy J., 2008. Wiess Instructor of Physics and Astronomy

Gill, Jack, 2008. Professor in the Practice of Entrepreneurship
BS (1958) Lamar University; PhD (1962) Indiana University

Gillenwater, Ann M., 2006. Adjunct Associate Professor in Bioengineering
BA (1983) Brown University; MD (1987) University of Virginia–Charlottesville

Gillis, Malcolm, 1993. University Professor, Ervin Kenneth Zingler Professor of Economics, Professor of Management
BA (1962), MA (1963) University of Florida; PhD (1968) University of Illinois

Glassberg, Jeffrey, 2007. Adjunct Professor of Ecology and Evolutionary Biology
BS (1969) Tufts University; PhD (1976) Rice University; JD (1995) Columbia University School of Law

Glick, William H., 2007. Adjunct Professor of Ecology and Evolutionary Biology
AB (1975) University of Michigan; PhD (1981) University of California–Berkeley

Glowinski, Roland, 1986. Adjunct Professor of Computational and Applied Mathematics
Ecole Polytechnique (1958); Ecole Nationale Superieure das Telecommunications; PhD (1970) University of Paris

Goetz, Rebecca A., 2006. Assistant Professor of History

Goldberg, Daniel, 2009. Lecturer in Kinesiology
BA (1999) Wesleyan University; JD (2002) University of Houston Law Center

Goldman, Ronald N., 1990. Professor of Computer Science
BS (1968) Massachusetts Institute of Technology; MA, PhD (1973) Johns Hopkins University

Goldsmith, Kenneth, 1991. Professor of Violin
BM (1966) George Peabody College for Teachers; MA (1968) Leland Stanford University

Golubitsky, Martin, 2005. Adjunct Professor of Computational and Applied Mathematics

Gonnermann, Helge, 2009. Assistant Professor of Earth Science

Gonzalez, Ana-Lisa, 2008. Lecturer on Education Certification
BA (1997), MEd (2000) University of St. Thomas; PhD (2005) University of Houston

Gonzalez, Ramon, 2005. William W. Akers Assistant Professor in Chemical and Biomolecular Engineering
BS (1993) Central University of Las Villas, Cuba; MS (1999) Catholic University of Valparaiso, Chile; PhD (2001) University of Chile

González-Stephan, Beatriz, 2001. Lee Hage Jamail Chair of Latin American Literature

Gordon, Richard G., 1995. W. M. Keck Professor of Earth Science, Associate of Lovett College
BA (1975) University of California–Santa Cruz; MS (1977), PhD (1979) Stanford University

Gordon, Ross M., 2007. Lecturer on Civil and Environmental Engineering
BS (2006), MS (2007) Rice University

Gorlova, Olga Y., (2004) Adjunct Assistant Professor of Statistics
MSc (1992) Novosibirsk University; PhD (2000) Novosibirsk University

Gorman, Bridget K., 2002. Associate Professor of Sociology, Associate of Jones College

Gorry, G. Anthony, 1976. Friedkin Professor of Management, Professor of Computer Science
BE (1962) Yale University; MS (1963) University of California–Berkeley; PhD (1967) Massachusetts Institute of Technology

Gottschalk, Arthur W., 1977. Professor of Composition and Theory, Chair of Composition and Theory

Goux, Jean-Joseph, 1990. Laurence H. Favrot Professor of French

Graf, Hans, 2002. Artist in Residence

Grande-Allen, Kathryn Jane, 2003. Associate Professor in Bioengineering
BA (1991) Transylvania University; PhD (1998) University of Washington

Grandy, Richard E., 1980. Carolyn and Fred McManis Professor of Philosophy
BA (1963) University of Pittsburgh; MA (1965), PhD (1968) Princeton University
Grant, Simon, 2002. Lay Family Chair in Economics

Grauer, Dan, 2005. Adjunct Professor of Ecology and Evolutionary Biology
BSc (1978), MSc (1980) Tel Aviv University; PhD (1985) University of Texas

Greig, Nancy, 1991. Adjunct Assistant Professor in Ecology and Evolutionary Biology
BA (1980), PhD (1991) University of Texas–Austin

Greiner, John, 1997. Lecturer on Computer Science

Grenader, Nonya S., 1995. Professor in the Practice of Architecture
BArch (1976) University of Texas; March (1994) Rice University

Griffin, Robert, J., 2008. Associate Professor of Civil and Environmental Engineering

Gross, Shawn, 2008. Adjunct Professor in Management

Gruetzmacher, Jeffrey K., 2009. Visiting Professor of Naval Science and Commanding Officer

Guerra, Rudy, 2001. Professor of Statistics

Guerrero, Thomas M., 2005. Adjunct Associate Professor of Computational and Applied Mathematics

Hackett, James T., 2006. Adjunct Professor of Management
BS, University of Illinois; MBA, Harvard University

Hafner, Jason H., 2001. Associate Professor of Physics and Astronomy and of Chemistry

Halas, Naomi J., 1989. Stanley C. Moore Professor in Electrical and Computer Engineering, Professor of Chemistry, Professor of Biomedical Engineering, Professor of Physics and Astronomy

Hall, Eric, 2008. Artist Teacher of Violin Orchestral Repertoire
BM (1977) Central Missouri State University; MM (1979) University of Illinois

Hamadeh, Shirine T., 2003. Associate Professor of Art History

Hamidieh, Kam, 2008. Pfeiffer-VIGRE Instructor in Statistics
BS (1995) University of Texas; PhD (2008) University of Michigan

Hammond, Keith Edward, 1988. Thomas Cook and Mary Elizabeth Edwards Memorial Chair in American Government, Professor of Political Science
AB (1969) Franklin and Marshall College; MA (1972) Florida Atlantic University; PhD (1977) University of Wisconsin–Milwaukee

Hampton, Lawrence P., 1999. Lecturer in Communications
AB (1979) University of Chicago; JD (1985) Case Western Reserve University

Han, Jung Won, 2005. Lecturer of Korean
BA (1968), Taegun Presbyterian College, Korea; MA (1997) University of Houston

Hannan, John K., 1990. Adjunct Professor of Management
BA (1975) Rice University; JD (1988) South Texas College of Law

Hannon, James P., 1967. Professor of Physics and Astronomy
BA (1962), MA (1965), PhD (1967) Rice University

Hansen, Derek, 2008. Pfeiffer-VIGRE Instructor of Computational and Applied Mathematics

Haptonstall, Clark D., 2003. Professor in the Practice of Kinesiology, Director of the Sport Management Program
Haque, Moyeen, 1988. Lecturer on Civil and Environmental Engineering
BS (1978) Aligarh Muslim University; MS (1982) University of Petroleum and Minerals; PhD (1988) University of Texas–Austin

Hardt, Robert M., 1988. W. L. Moody Professor of Mathematics
BS (1967) Massachusetts Institute of Technology; PhD (1971) Brown University

Harland, Peter W., 1989. Adjunct Professor of Chemistry
BSc (1968) University of Wales, Aberystwyth; PhD (1971), DSc (1993) Edinburgh University

Harman, Thomas, 1988. Adjunct Professor in Electrical and Computer Engineering
BSEE (1965) University of Maryland; PhD (1972) Rice University

Harris, Paul M. “Mitch”, 2000. Adjunct Professor of Earth Science
BS (1971), MS (1975) West Virginia University; PhD (1977) University of Miami

Harter, Deborah A., 1990. Associate Professor of French

Hartgerink, Jeffrey D., 2002. Associate Professor of Chemistry and of Bioengineering

Hartigan, Patrick M., 1994. Professor of Physics and Astronomy
BS (1981) University of Minnesota; PhD (1987) University of Arizona

Hartley, Craig, 1998. Adjunct Professor in Bioengineering

Hartley, Peter Reginald, 1986. Professor of Economics

Harvey, Shelly L., 2005. Associate Professor of Mathematics
BS (1997) California Polytechnic State University; PhD (2002) Rice University

Hassett, Brendan E., 2000. Professor of Mathematics

Hauge, Robert H., 1967. Distinguished Faculty Fellow in Chemistry
BA (1960) Loras College; PhD (1965) University of California–Berkeley

Heard, Holly E., 2003. Assistant Professor of Sociology, Associate of Lovett College

Hebl, Michelle (“Mikki”) R., 1998. Associate Professor of Psychology and Management

Heck, Prudence, 2009. VIGRE-Lovett Instructor of Mathematics

Heckelman, Elizabeth W., 1990. Lecturer on Education Certification

Helfes Loiselle, Gisela, 2009. Assistant Professor of Hispanic Studies
UBA (1997) Universidad de Buenos Aires; PhD (2007) Yale University

Heinckenschloss, Matthias, 1996. Professor of Computational and Applied Mathematics
BS (1988), PhD (1991) Universitat Trier, Germany

Hemeyer, Terry, 1998. Adjunct Professor of Management
BA (1960) Ohio State University; MA (1968) University of Denver

Hemmer, Thomas, 2009. Houston Endowment Professor of Accounting
BA (1984), MBA (1986), PhD (1990) Odense University, Denmark

Hempel, John, 1964. Milton B. Porter Professor of Mathematics
BS (1957) University of Utah; MS (1959), PhD (1962) University of Wisconsin at Madison

Hennessy, Rosemary, 2006. Professor of English Literature; Director of the Center for the Study of Women, Gender, and Sexuality
BA (1972) University of Pennsylvania; MA (1976) Temple University, PhD (1990) Syracuse University

Henning, Alison, 2004. Lecturer in Earth Science
BS (1994), MA (1997) University of Texas–Austin; PhD (2005) Rice University

Henze, Matthias, 1997. Watt J. and Lily G. Jackson Chair in Biblical Studies, Associate Professor of Religious Studies
MDiv (1992) University of Heidelberg; PhD (1997) Harvard University

Hernandez, Ismael, 2008. Adjunct Professor in Management

BA (1971) Rice University; MFA (1976) Rhode Island School of Design
Hewitt, Janice, 1999. Senior Lecturer in Professional Communications in the School of Engineering
BA, University of Michigan; MA (1986) PhD (1997) Rice University

Heydorn, Richard P., 1998. Adjunct Professor of Statistics
BEE (1958), MA (1964) University of Akron; PhD (1971) Ohio State University

Heymann, Dieter, 1966. Adjunct Professor of Chemistry
MS (1954), PhD (1958) University of Amsterdam, The Netherlands

Hicks, Illya V., 2007. Associate Professor of Computational and Applied Mathematics

Hight, Christopher, 2003. Associate Professor of Architecture

Hill, Thomas W., 1979. Professor of Physics and Astronomy
BA (1967), MS (1971), PhD (1973) Rice University

Hilser, Vincent J., 2005. Adjunct Professor in Biochemistry and Cell Biology

Hirasaki, George J., 1989. A. J. Hartsook Professor in Chemical and Biomolecular Engineering
BS (1965) Lamar University; PhD (1967) Rice University

Hirschi, Karen, 2001. Adjunct Assistant Professor of Bioengineering
BS (1984) Pennsylvania State University; PhD (1990) University of Arizona

Hirschi, Kendal, 2003. Adjunct Professor of Biochemistry and Cell Biology

Ho, Vivian, 2004. James A. Baker III Institute Chair in Health Economics, Professor of Economics

Hobby, William P., 1989. Radoslav A. Tsanoff Professor of Public Affairs
BA (1953) Rice Institute

Hoebig, Desmond, 2008. Professor of Cello
BM (1982), MM (1983) The Juilliard School of Music

Hoff, Kevin G., 2008. Adjunct Assistant Professor of Biochemistry and Cell Biology
PhD (2002) University of California–Irvine

Hokanson, David A., 2000. Adjunct Assistant Professor in Chemical and Biomolecular Engineering
BS (1977), MChE (1978) Rice University

Holland, J. Nathaniel, 2003. Assistant Professor of Ecology and Evolutionary Biology
BS (1993) Ferrum College; MS (1995) University of Georgia; PhD (2001) University of Miami

Holloway, Clyde, 1977. Professor of Organ
BMus (1957), MMus (1959) University of Oklahoma; SMD (1974) Union Theological Seminary

Hopkins-Raun, Loren, 2005. Lecturer on Statistics
BS (1986) University of Texas–Austin; MS (1989), PhD (1998) Rice University

Hoskisson, Robert E., 2009. George R. Brown Professor of Management
BS (1973), MA (1975) Brigham Young University; PhD (1984) University of California–Irvine

Houchens, Brent C., 2005. Assistant Professor in Mechanical Engineering and Materials Science

House, Waylon V., 1986. Adjunct Associate Professor of Chemical and Biomolecular Engineering

Howe, A. Cymene, 2009. Assistant Professor of Anthropology

Howell, William C., 1992. Adjunct Professor of Psychology
BA (1951), MA (1956), PhD (1958) University of Virginia

Huang, Huey W., 1973. Sam and Helen Worden Chair of Physics and Astronomy
BS (1962) National Taiwan University; PhD (1967) Cornell University

Huang, Shih-Shan, Susan, 2006. Assistant Professor of Art History
BA (1991) National Taiwan University; MA (1995) National University of Taiwan; PhD (2002) Yale University

Huang, Xuelin, 2008. Adjunct Associate Professor of Statistics
BS (1994) Peking University, China; MS (1997) Texas A&M University; PhD (2002) University of Michigan

Huberman, Brian Michael, 1975. Associate Professor of Visual Arts, Chair of Visual and Dramatic Arts
MFA Equivalent (1974) National Film School of Great Britain

Hudspeth, C. M., 1947. Lecturer on Political Science
BA (1940) Rice Institute; JD (1946) University of Texas–Austin
Hughes, Gordon, 2008. Assistant Professor of Art History

Hughes, Joseph B., 1992. Adjunct Professor in Civil and Environmental Engineering

Hughes, Thomas J. R., 2002. Adjunct Professor in Mechanical Engineering and Materials Science

Hulet, Randall G., 1987. Fayez Sarofim Professor of Physics and Astronomy
BS (1978) Stanford University; PhD (1984) Massachusetts Institute of Technology

Huston, J. Dennis, 1969. Professor of English
BA (1961) Wesleyan University; MA (1964), PhD (1966) Yale University

Hutchinson, John S., 1983. Professor of Chemistry
BS (1977), PhD (1981) University of Texas–Austin

Iammarino, Nicholas K., 1978. Professor and Chair of Kinesiology
BS (1973) University of Dayton; MEd (1975) University of Toledo; PhD (1978) Ohio State University

Igoshin, Oleg A., 2006. Assistant Professor in Bioengineering

Imambekov, Adilet, 2009. Assistant Professor of Physics and Astronomy

Jaber, Thomas I., 1988. Professor of Music, Director of Choral Ensembles

Jacot, Jeffrey G., 2008. Assistant Professor in Bioengineering
BS (1994) University of Colorado, Boulder; PhD (2005) Boston University

Jalbert, Pierre D., 1996. Associate Professor of Composition and Theory

Jeanneret, Paul Richard “Dick,” 2003. Adjunct Professor of Psychology
BA (1962) University of Virginia; MA (1963) University of Florida; PhD (1969) Purdue University

Jermaine, Christopher M., 2009. Associate Professor of Computer Science

Ji, Yuan, 2008. Adjunct Assistant Professor of Statistics
BS (1997) Fudan University; MS (1999) University of Minnesota; PhD (2003) University of Wisconsin

Jimenez, Carlos, 1997. Professor of Architecture
MArch (1981) University of Houston

Johns-Krull, Christopher M., 2001. Associate Professor of Physics and Astronomy
BA, BS (1989) University of Texas–Austin; MA (1991), PhD (1994) University of California–Berkeley

Johnson, Bruce R., 1994. Distinguished Faculty Fellow in Chemistry, Executive Director of the Rice Quantum Institute
BA (1975) University of Minnesota; PhD (1981) University of Wisconsin–Madison

Johnson, David B., 2000. Professor of Computer Science and in Electrical and Computer Engineering
BA (1982), MS (1985), PhD (1990) Rice University

Johnson, Raymond, 2009. W. L. Moody, Jr. Visiting Professor of Mathematics
BA (1963) University of Texas–Austin; PhD (1971) Rice University

BS (1992) Rice University; MS (1997) University of Virginia

Johnson, Valen, 2005. Adjunct Professor of Statistics

Johnsson, S. Lennart, 1995. Adjunct Professor of Computer Science

Johnston, Lisa, 2008. Lecturer in Communication

Jones Jr, B. Frank, 1962. Noah Harding Professor of Mathematics
BA (1958) Rice Institute; PhD (1961) Rice University

Jones, George P., 2007. Instructor in the Wiess School of Natural Sciences
BA (1971) Hartwick College; MS (1973, 1974) Ohio State University
Jones, Mark P., 2004. Professor of Political Science  
BA (1989) Tulane University; PhD (1994) University of Michigan

Jones, Thomas A., 2003. Adjunct Professor of Earth Science  
BS (1964), MS (1967) Colorado State University; MS (1968), PhD (1969) Northwestern University

Joseph, Betty, 1995. Associate Professor of English  

Juntti, Markku, 2007. Adjunct Professor in Electrical and Computer Engineering  
MS (1993), PhD (1997) University of Oulu, Finland

Kale, Prashant, 2007. Associate Professor of Management  

Kalra, Ajay, 2008. Professor of Management  

Kamins, Benjamin C., 1987. Professor of Bassoon

Kaminski, Vincent, 2001. Professor in the Practice of Management  
PhD (1975) Main School of Planning and Statistics, Warsaw, Poland; MBA (1978) Fordham University

Kanatas, George, 1994. Jesse H. Jones Professor of Management  
BS (1966) City College of New York; PhD (1971) University of Kansas; PhD (1978) Johns Hopkins University

Kapadia, Nishad, 2007. Assistant Professor of Management  

Kaplan, Gregory, 2001. Anna Smith Fine Assistant Professor of Judaic Studies  

Kasper, F. Kurits, 2008. Faculty Fellow in Bioengineering  
BS (1999) Case Western Reserve University; PhD (2005) Rice University

Kauffmann, Robert Lane, 1976. Associate Professor of Spanish  

Kaun, Kathleen, 1998. Professor of Voice  
BM (1966) Indiana University; MM (1970) University of Texas at Austin

Kavraki, Lydia, 1996. Noah Harding Professor of Computer Science, Professor of Bioengineering  

Kecht, Maria-Regina, 1997. Associate Professor of German Studies  
Teacher's Diploma (1978) Pushkin Institute, Moscow State University; MA (1979) University of Illinois–Urbana-Champaign; PhD (1982) Innsbruck University

Keefe, Christina, 2008. Director of the Theatre Program, Lecturer in Visual and Dramatic Arts  
BFA (1979) New York University; MFA (1994) University of South Carolina

Keeton, Darra, 1994. Associate Professor of Visual Arts  
BFA (1974) Miami University, Ohio; MFA (1979) Queens College, New York

Kehoe, John, 2002. Lecturer of Management  
BA (1960) Northwestern University; MA (1964) St. Louis University; DBA (1975) Harvard University

Keller-McNulty, Sallie, 2005. Dean of the George R. Brown School of Engineering, William and Stephanie Sick Dean of Engineering, Professor of Statistics  
BS (1977), MS (1979) University of South Florida; PhD (1983) Iowa State University of Science and Technology

Kelly, Kevin, 2002. Associate Professor in Electrical and Computer Engineering  

Kemmer, Suzanne E., 1993. Associate Professor of Linguistics and Cognitive Sciences, Associate of Sid Richardson College  

Kiang, Ching-Ihua, 2002. Assistant Professor of Physics and Astronomy  
BS (1987) National Taiwan University; PhD (1995) California Institute of Technology

Killian, Thomas C., 2000. Associate Professor of Physics and Astronomy  

Kim, Daniel, 2008. Adjunct Professor of Bioengineering  
BS (1985) University of Oklahoma; MD (1989) Tulane University School of Medicine

Kimbro, Rachel Tolbert, 2007. Assistant Professor of Sociology  
Kimmel, Marek, 1990. Professor of Statistics  
MS (1977), PhD (1980) Silesian Technical University

Kimmey, Kim, 2008. Lecturer in Communications  
BBA (1978) Baylor University; MS (1996) Texas A&M University

King, Stephen, 2003. Professor of Voice, Chair of Voice  

Kinsey, Berma, 2002. Lecturer in the Weiss School of Natural Sciences  
BA (1957) Duke University; PhD (1962) University of California–Berkeley

Kirchner, Stefan, 2009. Adjunct Assistant Professor of Physics and Astronomy  

Kirk, David E., 1982. Associate Professor of Tuba  
BM (1982) Juilliard School of Music

Klein, Anne C., 1989. Professor of Religious Studies  

Klineberg, Stephen L., 1972. Professor of Sociology, Associate of Lovett College  

Kloockner, Philip, 2007. Lecturer in Music  

Kluger, Luisa, 2007. Lecturer in Spanish  
BA (1972) Hebrew University; MA (1984) Rice University; PhD (2006) University of Houston

Knightly, Edward W., 1996. Professor in Electrical and Computer Engineering and Computer Science  

Kohn, Michael H., 2004. Assistant Professor of Ecology and Evolutionary Biology  
MSc (1994) University of Munich; PhD (2000) University of California–Los Angeles

Koka, Balaji, 2008. Associate Professor of Management  

Kolomeisky, Anatoly B., 2000. Associate Professor of Chemistry and of Chemical and Biomolecular Engineering  

Kono, Junichiro, 2000. Professor in Electrical and Computer Engineering, Associate Professor of Physics and Astronomy  
BS (1990), MS (1992) University of Tokyo; PhD (1995) State University of New York–Buffalo

Kortum, Philip T., 2005. Professor in the Practice, Faculty Fellow in Psychology  
BS (1985) University of Nebraska; MS (1990) Northeastern University; PhD (1994) University of Texas–Austin

Kosterev, Anatoliy A., 2002. Senior Faculty Fellow in Electrical and Computer Engineering  
MSC (1989) Moscow Institute for Physics and Technology; PhD (1995) Russian Academy of Science

Koushanfar, Farinaz, 2006. Assistant Professor in Electrical and Computer Engineering  


Kulinowski, Kristen, 2002. Faculty Fellow in Chemistry, CBEN Executive Director for External Affairs, Director of the International Council on Nanotechnology  
BS (1990) Canisius College; MS (1992), PhD (1995) University of Rochester

Kulstad, Mark, 1975. Professor of Philosophy  
BA (1969) Macalister College; PhD (1975) University of Michigan

Kurtzman, Kenny, 2004. Lecturer in the Practice of Management  
BA (1985) Rice University; MBA (1989) Stanford University

Kuspa, Adam, 2006. Adjunct Professor in Ecology and Evolutionary Biology  

Lairson, David R., 1977. Adjunct Professor of Economics  
BA (1970), MA (1971), PhD (1975) University of Kentucky
Lamos, Colleen R., 1989. Associate Professor of English
BA (1978) State University of New York–Binghamton; PhD (1988) University of Pennsylvania

Landes, Christy E., 2009. Assistant Professor of Chemistry
BS (1998) George Mason University; PhD (2003) Georgia Institute of Technology

Lane, David M., 1976. Associate Professor of Psychology and Statistics
BA (1971) Clark University; MA (1973) Tufts University; PhD (1977) Tulane University

Lane, Mary Ellen, 2000. Assistant Professor of Biochemistry and Cell Biology

Lane, Neal E., 1996. Malcolm Gillis University Professor; Professor of Physics and Astronomy
BS (1960), MS (1962), PhD (1964) University of Oklahoma

Last, Nana, 1999. Associate Professor in the Practice of Architecture

Latva-aho, Matti Sakari, 2007. Adjunct Professor in Electrical and Computer Engineering

Lavenda, Richard A., 1987. Professor of Composition and Theory
BA (1977) Dartmouth College; MMus (1979) Rice University; DMA (1983) University of Michigan

Leal, Suzanne, 2008. Adjunct Professor of Statistics

Lee, Jin-Ty., 2002. Associate Professor of Earth Science

Lee, Clover, 2005. Assistant Professor of Architecture

Lee, J. Jack, 2004. Adjunct Professor of Statistics
DDS (1982) National Taiwan University; MS (1984), PhD (1989) University of California–Los Angeles

Lee, William, 2008. Professor in the Practice of Management
BSEE (1963) Vanderbilt University; MBA (1967) Rollins College; PhD (1972) University of North Carolina

Leebron, David W., 2004. President and Professor of Political Science
BA (1976) Harvard University; JD (1979) Harvard Law School

Leeds, Brett Ashley, 2001. Albert Thomas Associate Professor of Political Science
BA (1991), University of North Carolina at Chapel Hill; PhD (1998) Emory University

LeGrand, Thomas, 2003. Associate Professor of Clarinet
BMus (1980) Curtis Institute of Music

Lenardic, Adrian, 1999. Professor of Earth Science

Lerup, Lars, 1993. William Ward Watkin Professor of Architecture
BArch (1968) University of California at Berkeley; MArch (1970) Harvard University

Levander, Alan R., 1984. Chair of Earth Science, Carey Croneis Professor of Earth Science
BS (1976) University of South Carolina; MS (1978), PhD (1984) Stanford University

Levander, Caroline E., 2000. Carlson Chair in the School of Humanities, Professor of English, Director of the Humanities Research Center

Levin, Harvey S., 2004. Adjunct Professor of Psychology
BA (1967) City University of New York; MA (1971), PhD (1972) University of Iowa

Levy, Eugene H., 2000. Howard Hughes Provost, Professor of Physics and Astronomy
AB (1966) Rutgers University; PhD (1971) University of Chicago

Lewis, Steven W., 1996. Research Fellow at the James A. Baker III Institute for Public Policy, Associate Director at the Chao Center for Asian Studies

Li, Haiyang, 2005. Associate Professor of Management
BA (1991), MA (1994) University of China; PhD (1998) City University of Hong Kong

Li, Hui, 2002. Adjunct Associate Professor of Physics and Astronomy
BS (1990) Beijing University; PhD (1995) Rice University

Li, King Chuen Peter, 2007. Adjunct Professor of Bioengineering
BS (1977), MD (1981) University of Toronto; MBA (1998) San Jose State University

Li, Qilin, 2006. Assistant Professor in Civil and Environmental Engineering
BE (1995) Tsinghua University, Beijing, China; MS (1999), PhD (2002) University of Illinois–Urbana-Champaign
Li, Wen-Hsiung, 2006. Adjunct Professor of Ecology and Environmental Biology
BE (1965) Chung-Yuang College of Science and Engineering, Taiwan; MS (1968) National Central University, Taiwan; PhD (1972) Brown University

Liang, Edison P., 1991. Andrew Hays Buchanan Professor of Astrophysics
BA (1967), PhD (1971) University of California–Berkeley

Lichtarge, Olivier, 2008. Adjunct Professor of Biochemistry and Cell Biology

Lilleberg, Jorma, 2002. Adjunct Professor in Electrical and Computer Engineering
BS (1984) University of Oulu; PhD (1992) Tampere University of Technology

Lin, Cho-Liang, 2006. Professor of Violin
BMus (1981) The Juilliard School of Music

Lin, Martin, 2008. Adjunct Faculty in Management
BS (1993) California Institute of Technology; MSE (1994) University of Texas

Linbeck, Leo, III, 2002. Adjunct Professor in the Practice of Management

Lindsay, D. Michael, 2006. Assistant Professor of Sociology

Link, Stephan, 2006. Assistant Professor of Chemistry and Chemical and Biomolecular Engineering
MA (1996) Technical University of Braunschweig, Germany; PhD (2000) Georgia Institute of Technology

Llope, William J., 1994. Senior Faculty Fellow in Physics and Astronomy

Loehnig, Grant, 2008. Artist Teacher of Opera Studies

Loewen, Peter V., 2006. Assistant Professor of Musicology
BMus (1987) University of Manitoba; MMus (1990), PhD (2000) University of Southern California

Logan, Jessica, 2006. Assistant Professor of Psychology

Logan, Jill “Thad”, 1982. Lecturer in English
BA (1973) University of California–Santa Barbara; PhD (1981) Rice University

Long, Elizabeth, 1978. Professor of Sociology, Associate of Baker College
BA (1966) Stanford University; MA (1974), PhD (1979) Brandeis University

Loos, Peter John, 1998. Lecturer and Visiting Scientist in Mechanical Engineering and Materials Science
BA (1977), MS (1982), PhD (1986) Rice University

Lopez-Alonso, Moramay, 2009. Assistant Professor of History

Lopez-Berenstein, Gabriela, 2006. Adjunct Professor in Bioengineering
Premedical (1970) Universidad de Puerto Rico; Graduate Work (1975), MD (1976) Universidad de Navarra, Spain

Lord, Tom F., 1992. Lecturer in Architecture
BA (1960) Southern Methodist University; MA (1965) Yale University

Lou, Jun, 2005. Assistant Professor in Mechanical Engineering and Materials Science

Loveland, Katherine A., 1991. Adjunct Professor of Psychology
BA (1975) University of Virginia; PhD (1979) Cornell University

Luca, Sergiu, 1983. Dorothy Richard Starling Professor of Violin
Arts Diploma (1966) Curtis Institute of Music

Ludwig, Jonathan, 2003. Senior Lecturer of Russian

Ludwig, Joseph A., IV, 2007. Adjunct Assistant Professor in Bioengineering
BBA (1994) University of Iowa College of Business; MD (1998) University of Iowa College of Medicine

Lurie, Susan, 1987. Associate Professor of English

Lüttge, Andreas, 1999. Professor of Earth Science, Professor of Chemistry, Associate of Will Rice College

Lwigale, Peter Y., 2008. Assistant Professor of Biochemistry and Cell Biology
BS (1994), MS (1997) University of Northern Iowa; PhD (2001) Kansas State University
Ma, Jianpeng. 2000. Associate Professor in Bioengineering  
BS (1985) Fudan University P.R. China; PhD (1996) Boston University

Maas, Michael R., 1984. Professor of History and Classical Studies  
BA (1973) Cornell University; MA (1975), PhD (1982) University of California—Berkeley

Mackenzie, Kevin R., 2000. Assistant Professor of Biochemistry and Cell Biology  

Mackie, Hilary S., 1993. Associate Professor of Classics  

Mackwell, Stephen J., 2005. Adjunct Professor of Earth Science  
BS (1978), MS (1979) University of Canterbury, Christchurch, NZ; PhD (1985) Australian National University

Maher, Lynn M., 2007. Adjunct Professor of Psychology  

Makdisi, Ussama S., 1997. Arab American Educational Foundation Professor of History  

Manca, Joseph, 1989. Professor of Art History, Nina J. Cullinan Professor of Art History, Associate of Baker College  

Mardis, Jerlyn, 2008. Lecturer in Management  
BA (1973); MBA (1982) Rice University

Margulies, Susan, 2008. Pfeiffer-VIGRE Instructor of Computational and Applied Mathematics  
BA (1993) University of California—Berkeley; PhD (2008) University of California—Davis

Marschall, Melissa J., 2003. Associate Professor of Political Science  
BA (1990) Florida State University; MA (1993) Bogazici University; PhD (1998) State University of New York—Stony Brook

Martí, Angel A., 2008. Assistant Professor of Chemistry and Bioengineering, Norman Hackerman-Welch Young Investigator  

Martin, Lanny W., 2004. Associate Professor of Political Science  
BS (1990), MA (1997), PhD (2000) University of Rochester

Martin, Randi C., 1982. Elma Schneider Professor of Psychology  
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Martinez, Dario F., 2008. Wiess Instructor of Physics and Astronomy  
BS (1996) Universidad de los Andes; PhD (2003) University of Texas—Austin

Masiello, Caroline A., 2004. Assistant Professor of Earth Science  

Massimino, Michael J., 2004. Adjunct Associate Professor in Mechanical Engineering and Materials Science  

Massoud, Yehia, 2003. Associate Professor in Electrical and Computer Engineering  
BS (1991), MS (1994) Cairo University; PhD (1999) Massachusetts Institute of Technology

Mathur, Anshu, 2005. Adjunct Assistant Professor in Bioengineering  

Matsuda, Seiichi P. T., 1995. E. Dell Butcher Chair in Chemistry, Professor of Biochemistry and Cell Biology  

Matthews, Kathleen Shive, 1972. Stewart Memorial Professor of Biochemistry and Cell Biology  
BS (1966) University of Texas at Austin; PhD (1970) University of California—Berkeley

Matusow, Allen J., 1963. William Gaines Twyman Professor of History, Associate Director of the James A. Baker III Institute for Public Policy, Interim Dean of the School of Humanities  
BA (1958) Ursinus College; MA (1959), PhD (1963) Harvard University

Matzakos, Andreas N., 2003. Adjunct Assistant Professor in Chemical and Biomolecular Engineering  
Diploma of Chemical Engineering (1987) National Technical University; PhD (1992) Rice University

Mawlawi, Osama R., 2002. Lecturer on Electrical and Computer Engineering  

Mayberry, J. Benton, 2005. Adjunct Professor in the Practice of Management  
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McCullough, Laurence, 2001. Adjunct Professor of Philosophy  
AB (1969) Williams College; PhD (1975) University of Texas—Austin

McDaniel, W. Caleb, 2008. Assistant Professor of History  
McDevitt, John T., 2008. Brown-Wiess Professor in Bioengineering and Chemistry

McGill, Scott, 2001. Associate Professor of Classics, Chair of Department of Classical Studies
BA (1990) Salve Regina College; PhD (2001) Yale University

McGovern, Patrick J., 2005. Adjunct Associate Professor of Earth Science
SB (1986), PhD (1996) Massachusetts Institute of Technology

McGuire, Amy, 2006. Visiting Assistant Professor in Humanities

McHale, Mary E.R., 1997. Laboratory Coordinator, Lecturer in Chemistry

McIntosh, Susan Keach, 1980. Professor of Anthropology
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McLellan, Rex B., 1964. Professor of Materials Science
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McLurkin, James D., 2009. Assistant Professor of Computer Science

McNeil, Caroline V., 2008. Laboratory Coordinator, Lecturer in Chemistry

McNeil, Linda M., 1984. Professor of Education
BA (1966) Texas Tech University; MA (1968) Baylor University; PhD (1977) University of Wisconsin–Madison

McNew, James A., 2000. Associate Professor of Biochemistry and Cell Biology
BS (1989) Texas A&M University; PhD (1994) University of Texas Southwestern Medical Center–Dallas

McPhail, S. Morton, 2003. Adjunct Associate Professor of Psychology
BA (1972) Trinity University; MS (1975), PhD (1978) Colorado State University

McStravic, David, 1999. Professor in the Practice of Mechanical Engineering and Materials Science
BS (1965), MS (1969), PhD (1972) Rice University

McZeal, Cassandra Moore, 2002. Adjunct Assistant Professor of Computational and Applied Mathematics

Meade, Andrew, J., 1989. Professor of Mechanical Engineering and Civil and Environmental Engineering

Medlock, Kenneth, 2003. Lecturer of Economics

Mellor-Crummey, John M., 1989. Professor in Computer Science and Electrical and Computer Engineering

Mentzer, Susanne, 2006. Professor of Voice
BMus (1979), MMus (1980) Juilliard School of Music

Merényi, Erzsébet, 2000. Research Professor in Electrical and Computer Engineering
MSc (1975) Attila Jozsef University, Hungary; PhD (1980) Attila Jozsef University and Central Research Institute for Physics, Hungarian Academy of Sciences

Merrill, Connie, 2002. Lecturer of Management
BA (1977) North Carolina State University, Raleigh; PhD (1981) Rice University

Metcalf, Alida C., 2009. Harris Masterson Jr. Professor of History
BA (1976) Smith College; MA (1978), PhD (1983) University of Texas–Austin

Metzker, Michael L., 2001. Adjunct Associate Professor of Chemistry
BS (1984) University of California–Davis; PhD (1996) Baylor College of Medicine

Michenaud, Sebastien, 2008. Assistant Professor of Management
MSc (1997) HEC School of Management, France; MSc (2005) Delta-EHESS, France; PhD (2008) HEC School of Management, France

Michie, Helena, 1990. Agnes Cullen Arnold Professor in Humanities, Professor of English, Chair of English
BA (1979) Princeton University; PhD (1984) University of Pennsylvania

Mikos, Antonios G., 1991. John W. Cox Professor in Bioengineering and Chemical and Biomolecular Engineering
Diploma (1983) Aristotle University of Thessaloniki, Greece; MS (1985), PhD (1988) Purdue University

Mikulis, Marise, 2006. Adjunct Professor of Management
BS, Tufts University
Miller, Thomas E. X., 2009. Huxley Research Instructor of Ecology and Evolutionary Biology
BA (2002) Colgate University; PhD (2007) University of Nebraska

Mishory, Alexander, 2009. Schusterman Visiting Israeli Professor in Israel Studies
BFA (1972) Webster University; MA (1984) Tel Aviv University; PhD (1997) City University of New York

Mittal, Vikas, 2007. J. Hugh Liedtke Professor of Management

Mittleman, Daniel, 1995. Professor in Electrical and Computer Engineering
BS (1988) Massachusetts Institute of Technology; MS (1990), PhD (1994) University of California–Berkeley


Mody, Cyrus C. M., 2007. Assistant Professor of History

Mohanram, Kartik, 2003. Assistant Professor in Electrical and Computer Engineering

Montague, P. Read, 1993. Adjunct Professor of Computer Science
BS (1983) Auburn University; PhD (1988) University of Alabama–Birmingham

Moore, Pat, 1996. Adjunct Professor in Civil and Environmental Engineering
BA (1952), BS (1953) Rice University

Moretti, Paolo, 2007. Adjunct Professor of Biochemistry and Cell Biology
BA (1952), BS (1953) Rice University

Morgan, Julia K., 1999. Professor of Earth Science, Associate of Hanszen College

Morgan, T. Clifton, 1987. Albert Thomas Professor of Political Science
BA (1978) University of Oklahoma; MA (1980), PhD (1986) University of Texas–Austin

Morosan, Emilia, 2007. Assistant Professor of Physics and Astronomy
BS (1999) A. I. Cuza University; PhD (2005) Iowa State University

Morris, Wesley Abram, 1968. Professor of English
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Morrison, Donald Ray, 1988. Professor of Philosophy and Classical Studies

Morton, Scott A., 2004. Adjunct Associate Professor of Computational and Applied Mathematics

Motowidlo, Stephan J., 2005. Herbert S. Autrey Professor of Psychology
BA (1969) Yale University; PhD (1976) University of Minnesota

Moulin, Hervé, 1999. George A. Peterkin Professor of Economics
Aggregation de Mathematiques (1971) Paris, France; PhD (1975) University of Paris, France

Müller, Peter, 2001. Adjunct Professor of Statistics
MS (1985) University of Vienna; PhD (1991) Purdue University

Muratore, John E., 2006. Adjunct Lecturer on Mechanical Engineering and Materials Science
BS (1979) Yale University; MS (1988) University of Houston–Clear Lake

Murdock, Steve H., 2007. Allyn and Gladys Cline Professor of Sociology
BA (1970) North Dakota State University; MA (1975), PhD (1975) University of Kentucky

Murphree, Dennis E., 1992. Lecturer on Management
BA (1969) Southern Methodist University; MBA (1971) University of Pennsylvania

Nagarajaiah, Satish, 1999. Professor in Civil and Environmental Engineering and in Mechanical Engineering and Material Science
BS (1980) Bangalore University, India; MS (1982) Indian Institute of Science, India; PhD (1990) State University of New York–Buffalo

Nagrath, Deepak, 2009. Assistant Professor in Chemical and Biomolecular Engineering

Nakahle, Luay K., 2004. Assistant Professor of Computer Science, Assistant Professor of Biochemistry and Cell Biology

Nance, Virginia, 2005. Lecturer in Music
BMus (1967) North Texas State University; MMus (2000) Texas A&M University–Commerce
Napier, H. Albert, 1983. Professor of Management and Psychology  
BA (1966), MBA (1968), PhD (1971) University of Texas–Austin

Narajabad, Borghan N., 2007. Assistant Professor of Economics  
BS (2001) Sharif University of Technology, Tehran, Iran; MS (2003), PhD (2007) University of Texas–Austin

Narbona, Jose A., 1999. Senior Lecturer of Spanish  
BA (1995) University of Seville, Spain; MA (1999) Rice University

Natelson, Douglas, 2000. Associate Professor of Physics and Astronomy and in Electrical and Computer Engineering  

Neagley, Linda E., 1993. Associate Professor of Art History  
BA (1971) Russell Sage College; MA (1976), PhD (1985) Indiana University

BS (1988) University of Colorado; PhD (1997) University of Michigan

Nelson-Campbell, Deborah, 1974. Professor of French  
BA (1960) Wittenberg University; Certificat d'etudes Francaises, ler Degre (1961) University of Grenoble, France; MA (1964), PhD (1970) Ohio State University

Newell, Charles J., 1993. Adjunct Professor in Civil and Environmental Engineering  

Newman, James H., 1985. Adjunct Professor of Physics and Astronomy  

Ng, T. S. Eugene, 2003. Assistant Professor of Computer Science and Electrical and Computer Engineering  

Nguyen, Dung “Zung”, 1999. Lecturer on Computer Science  
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Nichol, Carolyn, A., 2009. Lecturer in Chemistry  
BS (1984) University of Massachusetts–Amherst; MS (1990), PhD (1992) University of Texas–Austin

Niedzielski, Nancy A., 1999. Associate Professor of Linguistics, Associate of Lovett College  

Nikonowicz, Edward P., 1993. Associate Professor of Biochemistry and Cell Biology  
BS (1985) St. Louis University; PhD (1990) Purdue University

Ninetto, Amy, 2005. Assistant Professor of Anthropology  

Niu, Fenglin, 2002. Associate Professor of Earth Science  
BS (1988) University of Science and Technology of China; MS (1994), PhD (1997) University of Tokyo

Nordlander, Peter, 1989. Professor of Physics and Astronomy and in Electrical and Computer Engineering  
BA (1977) Swedish Cavalry Officers’ School; MS (1980), PhD (1985) Chalmers University of Technology; Gothenburg, Sweden

Novotny, Alma M., 2000. Lecturer in Biochemistry and Cell Biology  
BS (1968) Duke University; PhD (1972) Purdue University

Nowak, Robert, 1999. Adjunct Professor in Electrical and Computer Engineering  
BS (1990), MS (1992), PhD (1995) University of Wisconsin–Madison

Oberfack, Uwe, 2001. William V. Vietti Assistant Professor of Space Physics  
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O’Callaghan, Casey, 2008. Assistant Professor of Philosophy  

Oden, Z. Maria, 2004. Professor in the Practice of Engineering, Director of the Oshman Engineering Design Kitchen  


Oghalai, John, 2005. Adjunct Associate Professor in Bioengineering  
BS (1990), MD (1994) University of Wisconsin

Olggaard, David L., 2007. Adjunct Associate Professor of Earth Science  
BS (1978) Cornell University; PhD (1985) Massachusetts Institute of Technology

Oliver, Douglas E., 1997. Professor in the Practice of Architecture  

Olson, John Steven, 1973. Ralph and Dorothy Looney Professor of Biochemistry and Cell Biology  
BS (1968) University of Illinois; PhD (1972) Cornell University
O’Malley, Marcia K., 2001. Assistant Professor in Mechanical Engineering and Materials Science
BS (1996) Purdue University; MS (1999), PhD (2001) Vanderbilt University

Orchard, Michael T., 2001. Professor in Electrical and Computer Engineering

Orlandi, Nicoletta, 2007. Assistant Professor of Philosophy

Ostdiek, Barbara, 1994. Associate Professor of Management and Statistics; Academic Director, El Paso Corp. Finance Center
BA (1986) University of Nebraska; PhD (1994) Duke University

Ostdiek, Donald, 1995. Lecturer in the School of Social Sciences, Director of Policy Studies, Associate Director of Academic Advising

Ostherr, Kirsten, 2002. Associate Professor of English

O’Sullivan, Elizabeth, 2001. Lecturer of Management

Oswald, Frederick L., 2008. Associate Professor of Psychology
BA (1992) University of Texas–Austin; MA (1997), PhD (1999) University of Minnesota

Oubre, Carroll, 1999. Adjunct Professor of Civil and Environmental Engineering
BA (1986) University of Southwestern Louisiana; MS (1987) Ohio State University; PhD (1996) Rice University

Oukaderova, Lida, 2008. Visiting Assistant Professor of Art History
BA (1997) Martin-Luther University; MA (1999), PhD (2005) University of Texas–Austin

Overall, John E., 1983. Adjunct Professor of Psychology
BS (1954) Trinity University; MA (1956), PhD (1958) University of Texas–Austin

Padgett, Jamie Ellen, 2007. Assistant Professor in Civil and Environmental Engineering
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Padley, B. Paul, 1996. Associate Professor of Physics and Astronomy
BS (1981) York University; MS (1984), PhD (1987) University of Toronto

Page, Paula, 1985. Associate Professor of Harp
BMus (1969) Cleveland Institute of Music

Palem, Krishna, 2007. Ken and Audrey Kennedy Professor of Computer Science and Electrical and Computer Engineering
MS (1981), PhD (1986) University of Texas

Palizza, John, 2007. Lecturer in Management
BA (1972) Coe College; JD (1975) Loyola University; MBA (1994) Northwestern University

Palzkill, Timothy, 2008. Adjunct Professor of Biochemistry and Cell Biology
BS (1985) Creighton University; PhD (1988) University of Iowa

Papadopoulos, Phaedon P., 2001. Lecturer of Management
BS (1970), MS (1972) Aristotle University; MS (1974), PhD (1979) University of Oklahoma

Park, Sohyoung, 2005. Artist Teacher of Piano and Piano Pedagogy

Parker, Jon Kimura, 2000. Professor of Piano
BMus, MMus (1981), DMA (1989) Juilliard School of Music

Parry, Ronald J., 1978. Professor of Chemistry and of Biochemistry and Cell Biology
BA (1964) Occidental College; PhD (1968) Brandeis University

Parsons, Spencer W., 1969. Associate Professor of Architecture
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Parsons, William B., 1993. Associate Professor of Religious Studies
BA (1979) Brandeis University; MDiv (1982) Yale University; PhD (1993) University of Chicago

Pasquali, Matteo, 1999. Professor in Chemical and Biomolecular Engineering and in Chemistry, Lovett College Master
MS (1992) University of Bologna; PhD (1999) University of Minnesota

Pati, Debananda, Adjunct Assistant Professor of Biochemistry and Cell Biology
BSc (1986) Orissa University; MS (1988) University of Buckingham; PhD (1995) University of Calgary

Patten, Robert L., 1969. Lynette S. Autrey Professor in Humanities; Publisher, Executive Editor, *SEL Studies in English Literature 1500–1900*
BA (1960) Swarthmore College; MA (1962), PhD (1965) Princeton University
Patterson, Peggy, 2003. Lecturer of Spanish

Pavelescu, Elena Bogdan, 2008. G.C. Evans Instructor of Mathematics

Paye, Bradley S., 2004. Assistant Professor of Management

Pazgal, Amit, 2006. Jones School Distinguished Associate Professor of Management
BS (1987), MS (1992) Tel Aviv University; PhD (1997) Northwestern University

Peaceman, Donald W., 1983. Adjunct Professor of Computational and Applied Mathematics
BChE (1974) College of the City of New York; ScD (1952) Massachusetts Institute of Technology

Pearson, Deborah A., 1991. Adjunct Associate Professor of Psychology
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Peek, Kathryn, 2006. Adjunct Lecturer in Bioengineering
BA (1968) Lamar University; MS (1970) University of Houston; MA (1981) University of Houston–Clear Lake; PhD (1988) University of Texas Health Science Center–Houston

Pelis, Neil R., 1997. Adjunct Professor in the Mabee Laboratory

Pennings, Steven, 2003. Adjunct Associate Professor of Evolutionary Biology

Peres, S. Camille, 2007. Adjunct Assistant Professor of Psychology

Pérez, J. Bernardo, 1979. Associate Professor of Spanish
Licenciatura (1972) Universidad de Granada, Spain; MA (1974), PhD (1982) University of Iowa

Perkins, Andrew, 2003. Assistant Professor of Management

Perkins, Heidi, 2008. Lecturer in Kinesiology
BS (1985) Missouri State University; ME (1992), PhD (2006) University of Houston


Pierce, Mark C., 2005. Faculty Fellow in Bioengineering
BSc (1997), PhD (2000) University of Manchester, UK

Pilling, Darrell, 2006. Faculty Fellow in Biochemistry and Cell Biology
BSc (1986) Aston University, UK; PhD (1995) Birmingham University, UK

Pinn, Anthony B., 2004. Agnes Cullen Arnold Professor of Humanities, Professor of Religious Studies

Pitts, Timothy, 1992. Professor of Double Bass

Platt, Robert, 2007. Adjunct Assistant Professor in Mechanical Engineering and Materials Science

Poland, Sydney W., 2005. Lecturer on Electrical and Computer Engineering
BS (1955) Louisiana Tech; MS (1962) TCU; MAS (1972) SMU

Pomerantz, James R., 1988. Professor of Psychology
BA (1968) University of Michigan; PhD (1974) Yale University

Pope, Albert H., 1986. Gus Sessions Worthing Professor of Architecture

Price III, Richard A., 2005. Assistant Professor of Management

Prince, Glenn, 2008. Lecturer in Humanities, Assistant Director of Forensics

Pu, Han, 2003. Assistant Professor of Physics and Astronomy
BS (1992) University of Science and Technology of China; MS (1994), PhD (1999) University of Rochester

Putnam, Nicholas H., 2008. Assistant Professor of Ecology and Evolutionary Biology
Qian, Nanxiu, 1993. Associate Professor of Chinese Literature
MA (1982) Nanjing University; PhD (1994) Yale University

Queller, David C., 1989. Harry C. and Olga K. Wiess Professor of Ecology and Evolutionary Biology
BA (1976) University of Illinois; MS (1979), PhD (1983) University of Michigan

Quenemoen, Caroline K., 2002. Assistant Professor of Art History and Classical Studies

Quillen, Carol E., 1989. Associate Professor of History, Director of the Boniuk Center for the Study and Advancement of Religious Tolerance, Vice Provost For Academic Affairs

Quiocho, Florante A., 1972. Adjunct Professor of Biochemistry and Cell Biology
BS (1959) Central Philippine University; MS (1961) Howard University; PhD (1966) Yale University

Qutub, Amina Ann, 2009. Assistant Professor in Bioengineering
BS (1999) Rice University; PhD (2004) University of California–Berkeley and San Francisco

Rachleff, Larry, 1991. Walter Kris Hubert Professor of Orchestra Conducting
BS (1977) University of Connecticut; MM (1979) University of Michigan

Radigan, Judy, 2002. Lecturer on Education Certification
MFA (1985) University of Houston; MED (1997) University of St. Thomas; PhD (2002) University of Houston

Ragsdale, Lyn, 2006. Dean of the School of Social Sciences, Radoslav A. Tsanoff Chair of Public Affairs, Professor of Political Science

Raphael, Robert M., 2001. Associate Professor in Bioengineering
BS (1989) University of Notre Dame; MS (1992), PhD (1996) University of Rochester

Rarick, Janet, 1992. Artist Teacher of Woodwinds and Professional Development
BM (1973) University of Southern California

Rau, Carl, 1983. Professor of Physics and Astronomy
BS (1965), MS (1967), PhD (1970) Technical University, Munich

Ray, Bonnie, 2008. Adjunct Associate Professor of Statistics
BS (1985) Baylor University; PhD (1991) Columbia University

Rivas, W. C. Rusty, 1985. Adjunct Associate Professor of Earth Science, Lecturer
BS (1973) New Mexico Institute of Mining and Technology; MS (1977), PhD (1980) University of New Mexico

Richards-Kortum, Rebecca, 2005. Stanley C. Moore Professor of Bioengineering, Professor of Electrical and Computer Engineering
BS (1985) University of Nebraska; MS (1987), PhD (1990) Massachusetts Institute of Technology

Riesz, W. C. Rusty, 1985. Adjunct Associate Professor of Earth Science, Lecturer
BS (1973) New Mexico Institute of Mining and Technology; MS (1977), PhD (1980) University of New Mexico

Rixner, Scott, 2000. Associate Professor of Computer Science and in Electrical and Computer Engineering

Robert, Marc A., 1984. Professor in Chemical and Biomolecular Engineering
Roberts Jabus B., Jr., 1975. Professor of Physics and Astronomy
BA (1965) Columbia University; PhD (1969) University of Pennsylvania

Rogge, Corina E., 2007. Wiess Instructor of Chemistry

Rojo, Javier, 2001. Professor of Statistics


Rosenfield, David B., 2004. Adjunct Professor of the Neurobiology of Music
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Roux, Robert, 1990. Professor of Piano, Chair of Keyboard
BMus (1970) Loyola University; MMus (1978), DMA (1980) University of Texas–Austin

Routten, Brian R., 2003. Assistant Professor of Management

Rounds, Jennifer, 2005. James H. and Deborah T. Godwin Assistant Professor of Ecology and Evolutionary Biology
BS (1996) Denison University; PhD (2002) University of California–Davis

Rudolf, Volker H. W., 2007. Assistant Professor in Ecology and Evolutionary Biology

Rumbaut, Rolando E., 2001. Adjunct Assistant Professor of Bioengineering
MD (1988) Instituto Tecnologico y de Estudios Superiores de Monterrey, Mexico; PhD (1998) University of Missouri

Rusk, Jerrold G., 2006. Professor of Political Science
BS (1963) Brigham Young University; PhD (1968) University of Michigan

Ryham, Rolf J., 2006. VIGRE-Lovett Instructor in Mathematics

Sabharwal, Ashutosh, 2001. Assistant Professor in Electrical and Computer Engineering

Saggiu, Peter, 2000. Adjunct Professor in Bioengineering
BS (1973) Technical College Ulm, Germany; MS (1977) Technical University, Munich, Germany; PhD (1988) University of Munich

Salas, Marcela, 1995. Senior Lecturer of Spanish.

Sams, Clarence F., 1997. Adjunct Assistant Professor of Biochemistry and Cell Biology
BA (1975), PhD (1983) Rice University

Samuels, Danny M., 1981. Harry K. Smith Professor in the Practice of Architecture
BArch (1971) Rice University

San, Ka-Yiu, 1984. E.D. Butcher Professor in Bioengineering, Professor in Chemical and Biomolecular Engineering

Sanders, Betty S., 1988. Adjunct Assistant Professor of Psychology

Sanders, Gerard, 2008. Professor of Management
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Sanders, Paula A., 1987. Dean of Graduate and Postdoctoral Studies, Professor of History

Sarkar, Ratna G., 2007. Part-time Lecturer in Management, Associate Dean of Engineering for Global Initiatives
Sarkar, Vivek, 2007. Professor of Computer Science, E.D. Butcher Chair in Engineering

Saterbak, Ann, 2002. Professor in the Practice of Bioengineering
BA (1990) Rice University; PhD (1995) University of Illinois

Sato, Hiroko, 1989. Senior Lecturer of Japanese


Sauer, Nancy, 2008. Part-time Lecturer in Management

Sawyer, Dale S., 1988. Professor of Earth Science, Associate of Will Rice College
BS (1976) Purdue University; PhD (1982) Massachusetts Institute of Technology

Sazer, Shelley, 2008. Adjunct Associate Professor of Biochemistry and Cell Biology
PhD (1988) Stanford University

Sazykin, Stanislav, 2005. Senior Faculty Fellow in Physics and Astronomy
BS (1994) Utah State University; MS (1996) Moscow Institute of Physics and Technology; PhD (2000) Utah State University

Schaum, Robert Troy, 2008. Visiting Wortham Fellow

Schell, Rick, 2006. Lecturer in Communications in the Jesse H. Jones Graduate School of Management
BA (1971) Eastern Michigan University; MA (1975), PhD (1976) Rice University

Schell, Wendy, 2008. Lecturer in Kinesiology
BS (1994) Auburn University; BS (1996) Georgia State University; MS (2007) Texas Women’s University

Scherer, William N., 2007. Faculty Fellow in Computer Science

Schlief, Matthew A., 2005. Production Manager Theatre Program, Lecturer of Visual and Dramatic Arts/Theatre
BFA (1997) Southwestern University; MFA (2002) University of Houston

Schuur, Tatiana T., 2006. Assistant Professor of Psychology

Schuler, Douglas A., 1992. Associate Professor of Management
BS (1985) University of California–Berkeley; PhD (1992) University of Minnesota

Scott, David W., 1979. Noah Harding Professor of Statistics
BA (1972), MA, PhD (1976) Rice University

Scusneria, Gustavo E., 1989. Robert A. Welch Professor of Chemistry, Vice Chair of the Department of Chemistry, Professor of Physics and Astronomy
BS (1979), PhD (1983) University of Buenos Aires

Sedlak, John M., 1990. Lecturer on Civil and Environmental Engineering

Seed, Patricia, 1982. Adjunct Professor of Anthropology
BA (1971) Fordham University; MA (1975) University of Texas–Austin; PhD (1980) University of Wisconsin–Madison

Seetharaman, Seethu, 2004. Professor of Management

Segatori, Laura, 2007. T.N. Law Assistant Professor in Chemical and Biomolecular Engineering
BS (2000), MS (2000) University of Bologna, Italy; PhD (2005) University of Texas–Austin

Segner III, Edmund, 1996. Professor in the Practice in Civil Engineering Management
BS Rice University; MA University of Houston

Self, Sean, 2008. Adjunct Professor in Management


Sereno, Anne Bibiana, 2002. Adjunct Assistant Professor of Psychology

Shah, Gautami, 2001. Senior Lecturer of Hindi
BA (1985) University of Bombay; MS (1988) Purdue University
Shamoo, Yousif, 1998. Associate Professor of Biochemistry and Cell Biology

Shank Jr, C. Dean, 1984. Artist Teacher of Piano and Piano Technology
BMus (1968), MMus (1971) North Texas State University; DMA (1988) University of Texas–Austin

Shanks, Jacqueline, 2002. Adjunct Professor in Bioengineering
BS (1983) Iowa State University; PhD (1989) California Institute of Technology

Shaulsksy, Gad, 2006. Adjunct Associate Professor in Ecology and Evolutionary Biology
BSc (1985), MSc (1986) Tel Aviv University; Israel; PhD (1991) Weizmann Institute of Science, Rehovot, Israel

Shaw, Chad A., 2004. Adjunct Assistant Professor of Statistics

Sheafor, Stephen J., 2002. Adjunct Professor in Electrical and Computer Engineering
BS (1972), MEE (1972), Rice University; PhD (1974) University of Illinois; MBA (1979) Santa Clara University

Shehabuddin, Elora, 2001. Assistant Professor of Humanities and Political Science

Sheinman, Hanoch, 2004. Assistant Professor of Philosophy

Shen, Chao-Mei, 2000. Senior Lecturer of Chinese
BA (1986) National Tsing Hua University; MA (1989) National Taiwan University; PhD (1998) University of Texas–Austin

Shen, Yu, 2002. Adjunct Professor of Statistics

Sher, George, 1991. Herbert S. Autrey Professor of Philosophy
BA (1964) Brandeis University; PhD (1972) Columbia University

Shete, Sanjay S., 2007. Adjunct Associate Professor of Statistics

Shibatani, Masayoshi, 2002. Deedee McMurtry Professor of Humanities, Professor of Linguistics
BA (1970), PhD (1973) University of California–Berkeley

Shih, Ya-Chen Tina, 2004. Adjunct Associate Professor of Statistics
BA (1988) National Taiwan University; MA (1990) National Tsing Hua University; PhD (1997) Stanford University

Shipp, Stephanie S., 2000. Adjunct Assistant Professor of Earth Science
BS (1988) University of Maine; PhD (1999) Rice University

Shouval, Harel, 2004. Adjunct Assistant Professor of Computational and Applied Mathematics
BSc (1987) Tel Aviv University; MSc (1990) Weizmann Institute; PhD (1994) Brown University

Shvets, Gennady, 2005. Adjunct Assistant Professor in Electrical and Computer Engineering
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Si, Qimiao, 1994. Harry C. and Olga K. Wiess Professor of Physics and Astronomy
BS (1986) University of Science and Technology of China; PhD (1991) University of Chicago

Sickles, Robin, 1985. Professor of Economics and Statistics
BS (1972) Georgia Institute of Technology; PhD (1976) University of North Carolina

Siefert, Janet, 2002. Senior Faculty Fellow in Statistics
BS (1975) University of Central Arkansas; PhD (1997) University of Houston

Siemann, Evan, 1998. Professor and Chair of Ecology and Evolutionary Biology
AB (1989) Cornell University; PhD (1997) University of Minnesota

Sigrist, Markus W., 1994. Adjunct Professor in Electrical and Computer Engineering
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Silberg, Jonathan J., 2005. Adjunct Assistant Professor of Biochemistry and Cell Biology

Simm, Ray, Jr., 2009. Professor in the Practice in Computer Architecture
BS (1981) Texas A&M University; MS (1983) Rice University

Simo, Juan Antonio, 2008. Adjunct Professor of Earth Science
BS (1981), MS (1982), PhD (1985) University of Barcelona, Spain

Simpson, Robert, 2002. Adjunct Lecturer of Church Music
AB (1970) Brown University; SMM (1972) Union Theological Seminary

Sinclair, James B., 1978. Lecturer on Electrical and Computer Engineering, Associate Dean of Engineering
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Singer, Adam B., 2007. Adjunct Assistant Professor of Computational and Applied Mathematics

Singh, Siddharth S., 2003. Assistant Professor of Management

Sizova, Natalia M., 2009. Assistant Professor of Economics

Skinner, David C., 2004. Lecturer in Management
BS (1987) Oklahoma State University; MBA (1992) Oklahoma City University

Smith, Brinton, 2005. Associate Professor of Cello

Smith, Clifton Wayne, 1993. Adjunct Professor in Bioengineering
BS (1963) Texas A&M University; MS (1966), MD (1968) University of Texas Medical Branch–Galveston

Smith, D. Brent, 2000. Associate Professor of Management, Associate Professor of Psychology, Associate Dean of Executive Education
BA (1992) University of Tulsa; MA (1996), PhD (1999) University of Maryland–College Park

Smith, George, 1981. Professor of Visual Arts
BFA (1969) San Francisco Art Institute; MA (1972) Hunter College

Smith, Ian, 2000. Senior Faculty Fellow in Physics and Astronomy

Smith, Richard J., 1973. George and Nancy Rupp Professor of Humanities, Professor of History
BA (1966), MA (1968), PhD (1972) University of California–Davis

Smith Jr, Roland B., 1996. Associate Provost, Adjunct Professor of Sociology and of Education Certification

Snow, Edward A., 1981. Mary Gibbs Jones Chair for the Humanities, Professor of English
BA (1964) Rice University; MA (1966) University of California–Riverside; PhD (1969) State University of New York–Buffalo

Socaicu, Gheorghe-Ciprian, 2009. Lecturer in French

Soligo, Ronald, 1967. Professor of Economics
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Somerville, Ted, 2009. Postdoctoral Fellow in Classics
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Sonenshein, Scott, 2007. Assistant Professor of Management

Song, Yongcheng, 2009. Adjunct Assistant Professor of Chemistry
BS (1993) Nanjing University; PhD (2001) National University of Singapore/Institute of Molecular and Cell Biology

Sorensen, Danny C., 1989. Noah Harding Professor of Computational and Applied Mathematics
BS (1972) University of California–Davis; MA (1975), PhD (1977) University of California–San Diego

Sosa, Jason, 2007. Lecturer in Kinesiology

Spanos, Pol D., 1984. Lewis B. Ryon Professor of Mechanical Engineering and Civil and Environmental Engineering
Dip (1973) National Technical University, Greece; MS (1974), PhD (1976) California Institute of Technology

Sparagana, John, 1989. Professor of Visual and Dramatic Arts

Sperandio, Christopher, 2008. Assistant Professor of Visual and Dramatic Arts

Speziale, Marie, 2002. Professor of Trumpet and Chair of Brass
BM (1964) College Conservatory of Music, University of Cincinnati

Spuler, Richard, 1992. Senior Lecturer of German

Stallings, Tom, 2007. Lecturer of Kinesiology
BA (1981) University of Texas; MED (2008) University of Houston
Stallmann, Kurt, 2002. Lynette S. Autrey Associate Professor of Composition and Theory

Stanciulescu, Ilincu, 2009. Assistant Professor in Civil and Environmental Engineering

Stasney, C. Richard, 1999. Adjunct Professor of Performing Arts Medicine
BA (1965) Yale University; MD (1969) Baylor College of Medicine

Stein, Robert M., 1979. Lena Gohlman Fox Professor of Political Science
BA (1972) Ohio Wesleyan University; MA (1974), PhD (1977) University of Wisconsin–Milwaukee

Steiner, Uwe, 2001. Professor of German Studies

Stern, Robert M., 1979. Lena Gohlman Fox Professor of Political Science
BA (1972) Ohio Wesleyan University; MA (1974), PhD (1977) University of Wisconsin–Milwaukee

Steiner, Uwe, 2001. Professor of German Studies

Stevenson, Paul M., 1984. Professor of Physics and Astronomy, Associate of Brown College
BA (1976) Cambridge University; PhD (1979) Imperial College

Stevenson, Randolph T., 1997. Associate Professor of Political Science

Stewart, Charles R., 1969. Professor of Biochemistry and Cell Biology
BS (1962) University of Wisconsin–Madison; PhD (1967) Stanford University

Stoll, Richard J., 1979. Professor of Political Science
AB (1974) University of Rochester; PhD (1979) University of Michigan

Storthz, Karen Adler, 2007. Adjunct Professor in Bioengineering
BS (1976) Louisiana State University; MS (1978), PhD (1981) Louisiana State University–Medical Center

Stotts, Angela L., 2007. Adjunct Assistant Professor of Psychology

Strait, Richard B., 2007. Adjunct Professor in Chemical and Biomolecular Engineering
BS (1970) Ohio State University; MBA (1978) University of Tulsa

Strassmann, Diana, 2004. Professor in the Practice in Humanities

Strassmann, Joan E., 1980. Harry C. and Olga K. Wiess Professor
BA (1974) University of Michigan; PhD (1979) University of Texas–Austin

Stroud, Leah, 2009. Lecturer in Kinesiology

Stroup, John M., 1988. Harry and Hazel Chavanne Professor of Religious Studies
AB (1968) Washington University; MDiv (1972) Concordia Seminary; MPhil (1975), PhD (1980) Yale University

Stuart, Laurence, 2001. Adjunct Professor of Management

Subramanian, Devika, 1995. Professor of Computer Science and in Electrical and Computer Engineering

Suh, Junghae, (2007). Assistant Professor in Bioengineering

Sumners, Carolyn, 1999. Adjunct Professor of Physics and Astronomy
BA (1970) Vanderbilt University; MEd (1977), EdD (1979) University of Houston

Swint, John Michael, 1977. Adjunct Professor of Economics
BA (1968) California State University–Humboldt; MA, PhD (1972) Rice University

Symes, William W., 1984. Noah Harding Professor of Computational and Applied Mathematics
BA (1971) University of California–Berkeley; PhD (1975) Harvard University

Taha, Walid, 2002. Assistant Professor of Computer Science and Electrical and Computer Engineering
BS (1993) Kuwait University; PhD (1999) Oregon Graduate Institute

Tao, Yizhi Jane, 2002. Assistant Professor of Biochemistry and Cell Biology
BS (1992) Peking University; PhD (1999) Purdue University

Tapia, Richard A., 1970. University Professor, Maxfield-Oshman Professor of Computational and Applied Mathematics
BA (1961), MA (1966), PhD (1967) University of California–Los Angeles

Temzelides, Ted, 2008. Professor of Economics  
BA (1988) University of Piraeus, Greece; PhD (1995) University of Minnesota

Tezduyar, Tayfun E., 1998. James F. Barbour Professor in Mechanical Engineering and Materials Science  
MS (1978), PhD (1982) California Institute of Technology

Thompson, Ewa M., 1970. Research Professor in German Studies  
BA (1963) University of Warsaw; MFA (1963) Sopot Conservatory of Music, Poland; PhD (1967) Vanderbilt University

Thompson, James R., 1970. Noah Harding Professor of Statistics  
BEng (1960) Vanderbilt University; MA (1963), PhD (1965) Princeton University

Tittel, Frank K., 1967. J. S. Abercrombie Professor in Electrical and Computer Engineering  
BS (1955), MA, PhD (1959) Oxford University

Tkaczyk, Tomasz, 2007. Assistant Professor in Bioengineering  

Tobin, David H., 2007. Lecturer in Communications  

Toffoletto, Frank R., 1996. Associate Professor of Physics and Astronomy  
BS (1981) La Trobe University; PhD (1987) Rice University

Tolias, Andreas S., 2006. Adjunct Assistant Professor of Computational and Applied Mathematics  

Tomson, Mason B., 1977. Professor in Civil and Environmental Engineering  
BS (1967) Southwestern State College; PhD (1972) Oklahoma State University

Tour, James M., 1999. Chao Professor of Chemistry, Professor of Mechanical Engineering and Materials Science, Professor of Computer Science  
BS (1981) Syracuse University; PhD (1986) Purdue University

Tran, Thanh T., 2004. Adjunct Lecturer on Electrical and Computer Engineering  

Trevisno, Jose, 2008. Visiting Assistant Professor of Naval Science  
BS (2003) University of Texas—San Antonio

Trosset, Michael, 1992. Adjunct Associate Professor of Computational and Applied Mathematics  
BA (1978) Rice University; PhD (1993) University of California–Berkeley

Tsai, Ah-Lim, 2007. Adjunct Professor of Biochemistry and Cell Biology  
BS (1974) National Taiwan University; PhD (1983) Rice University

Tsai, Pei-Ting, 2006. Lecturer in Chinese  
BA (1997), MA (2005) National Central University, Taiwan

Turhan, Neyran, 2009. Assistant Professor of Architecture  

Tyler, Stephen A., 1970. Herbert S. Autrey Professor of Anthropology and Linguistics  
BA (1957) Simon College; MA (1962), PhD (1964) Stanford University

Uecker, Wilfred C., 1984. Harmon Whittington Professor of Management  
BA (1968), MBA (1970), PhD (1973) University of Texas–Austin

Ulrich, Robert D., 2008. Adjunct Professor in Management  
BA, Claremont McKenna College; MS, PhD, University of Massachusetts

Uthamanthil, Rajeshk, 2006. Adjunct Assistant Professor in Bioengineering  

Vaillancourt Roseneau, Pauline, 1995. Adjunct Associate Professor in Social Sciences  
PhD (1972) University of California–Berkeley

Vajta, Robert, 2008. Faculty Fellow in Mechanical Engineering and Materials Science  
MSc (1986) Jate University; PhD (1997) Szeged University, Hungary

Van der Werff, Ivo-Jan, 2007. Professor of Viola  
Associate Hons (1980) Royal College of Music

van Doorn, Leendert, 2007. Adjunct Professor of Computer Science  

Van Horn, David, 2008. Adjunct Professor in Management  

Vann, Elizabeth F., 2007. Assistant Professor of Anthropology  
BA (1994) Georgia State University; MA (1998), PhD (2005) University of Virginia
Vannucci, Marina, 2006. Professor of Statistics
BS (1982), PhD (1996) University of Florence, Italy

Van Wagener, John, 1997. Adjunct Professor of Earth Science
BA (1972) College of Wooster; MA (1976), PhD (1977) Rice University

Varadachary, Atul, 2003. Adjunct Professor of Management
MD, University of Bombay; PhD (1992) Johns Hopkins University School of Medicine

Vardi, Moshe, 1993. Karen Ostrum George Professor in Computational Engineering, Professor of Computer Science
BS (1975) Bar-Ilan University; MS (1980) Feinberg Graduate School of the Weizmann Institute of Science; PhD (1982) Hebrew University


Varman, Peter J., 1983. Professor in Electrical and Computer Engineering and Computer Science
BTech (1978) Indian Institute of Technology, Kanpur; MSEE (1980), PhD (1983) University of Texas–Austin

Varadhachary, Atul, 2003. Adjunct Professor of Management
MD, University of Bombay; PhD (1992) Johns Hopkins University School of Medicine

Vasudevan, Venu, 2009. Adjunct Assistant Professor in Electrical and Computer Engineering
BS (1984) Indian Institute of Technology, New Delhi; PhD (1990) Ohio State University

Veech, William A., 1969. Edgar Odell Lovett Chair in Mathematics
AB (1960) Dartmouth College; PhD (1963) Princeton University

Velez, Luis, 2009. Lecturer in Kinesiology
MD Pontificia Universidad Javeriana in Bogota, Columbia; MS, PhD University of Texas Health Science Center–Houston

Verduzco, Rafael, 2009. Assistant Professor in Chemical and Biomolecular Engineering

VerMeulen, William, 1990. Professor of French Horn

Vernik, Dinah A., 2009. Assistant Professor of Management
MA, MS (1999) Ulyanovsk State University, Russia; PhD (2009) Duke University

Versari, Maria Elena, 2009. Lynette S. Autrey Visiting Assistant Professor in the Humanities Research Center

Viebig Jr., V. Richard, 1969. Lecturer on Accounting
BA (1962), MAcc (1977) Rice University

Vieux, Baxter, 2003. Adjunct Professor of Civil and Environmental Engineering

Villado, Anton J., 2008. Assistant Professor of Psychology

Visser, Pieter A., 1979. Adjunct Lecturer in Music

Vollmer, Amy Cheng, 2009. Visiting Professor of Biochemistry and Cell Biology
BA (1977) Rice University; PhD (1983) University of Illinois–Urbana-Champaign

Volz, Tracy, 1999. Senior Lecturer in Professional Communications in the School of Engineering

Voorhees, Coert A., 2009. Visiting Writer in Residence in the School of Humanities

Wagner, Daniel S., 2003. Assistant Professor of Biochemistry and Cell Biology
BA (1990) University of Texas; PhD (1997) University of Texas Health Science Center

Waligora-Davis, Nicole, 2008. Assistant Professor of English

Wallach, Dan Seth, 1998. Associate Professor of Computer Science and in Electrical and Computer Engineering

Wamble, Mark S., 1991. Professor in the Practice of Architecture

Warburton, Tim, 2004. Associate Professor of Computational and Applied Mathematics

Ward, Calvin H., 1966. Foyt Family Professor in Civil and Environmental Engineering and Professor of Ecology and Evolutionary Biology
BS (1955) New Mexico State University; MS (1958), PhD (1960) Cornell University; MPH (1978) University of Texas School of Public Health
Ward, Kerry R., 2001. Associate Professor of History, Associate of Lovett College

Warden, David E., 2006. Adjunct Lecturer on Mechanical Engineering and Materials Science
BS (1972), MS (1973) Purdue University; PhD (1981) University of Virginia

Warren, Joe D., 1986. Professor of Computer Science

Warren, Scott K., 1979. Adjunct Assistant Professor of Computer Science
BA (1972), MA (1974), PhD (1976) Rice University

Waters, David L., 1976. Associate Professor of Trombone
BME (1962) University of Houston; MMus (1964) University of Texas–Austin

Watkins, Cornelia, 2009. Lecturer in Music

Watkins, Dan, 2006. Adjunct Professor of Management
BS, Rice University; MS, PhD, Rice University; MS, PhD, Carnegie Mellon University

Weaver, Fred M., 2004. Adjunct Professor of Earth Science
BS (1970) University of Notre Dame; MS (1973), PhD (1976) Florida State University

Webster, Michael, 1997. Professor of Clarinet
BM (1966), MM (1967), DMA (1975) Eastman School of Music

Weisman, R. Bruce, 1979. Professor of Chemistry
BA (1971) Johns Hopkins University; PhD (1977) University of Chicago

Weissenberger, Klaus H. M., 1971. Professor of German Studies
MA (1965) University of Hamburg, Germany; PhD (1967) University of Southern California

Welch, Chapman, 2009. Lecturer in Music

Wellner, Julia Smith, 2003. Adjunct Assistant Professor of Earth Science

West, Jennifer L., 2009. Isabel C. Cameron Professor, Department Chair for Bioengineering, Professor in Chemical and Biomolecular Engineering
BS (1992) Massachusetts Institute of Technology; MS (1994), PhD (1996) University of Texas–Austin

Westbrook, Robert A., 1989. William Alexander Kirkland Professor of Management
AB (1969), MBA (1971), PhD (1975) University of Michigan

Weston, James P., 2000. Associate Professor of Management

White, Carolynne, 1988. Lecturer on Education Certification

White, Frank S., 1982. Lecturer on Architecture
BS (1977) Rochester Institute of Technology

Whitmire, Kenton H., 1982. Associate Dean of the Wiess School of Natural Sciences, Professor of Chemistry

Whitmore, Mihrisah, 1999. Adjunct Assistant Professor of Psychology

Whitney, Kenneth D., 2005. Assistant Professor in Ecology and Evolutionary Biology

BS (1975) Rice University; MA (1976) Union Theological Seminary; MD (1979) Baylor College of Medicine; MBA (2000) University of Houston

Whitson, Peggy, 1997. Adjunct Associate Professor of Biochemistry and Cell Biology
BS (1981) Iowa Wesleyan College; PhD (1986) Rice University

Wickham, Hadley A., 2008. Assistant Professor of Statistics
BSc (2002), MSc (2004) University of Auckland, New Zealand; PhD (expected 2008) Iowa State University

Widener, Sally K., 2001. Associate Professor of Management

Wiener, Martin J., 1967. Mary Gibbs Jones Professor of History, Chair of History
BA (1962) Brandeis University; MA (1963), PhD (1967) Harvard University
Wiernasz, Diane C., 2005. Adjunct Associate Professor of Ecology and Evolutionary Biology

Wiesner, Mark, 1988. Adjunct Professor of Civil and Environmental Engineering
BA (1978) Coe College; MS (1980) University of Iowa; PhD (1985) Johns Hopkins University

Wildenthal, Lora, 2003. Associate Professor of History, Associate of Will Rice College

Wiley, Gale E., 2002. Lecturer of Management Communications, Director of Communications Program
BS (1963), MS (1969) University of Illinois

Wilkinson, Harry E., 1990. Professor in the Practice in Natural Sciences
BA (1952), MBA (1957) Washington University, St. Louis; DBA (1960) Harvard Business School

Willcott, M. Robert, 1995. Adjunct Professor of Chemistry
BA (1955) Rice University; MS (1959), PhD (1963) Yale University

Williams, Edward E., 1978. Henry Gardiner Symonds Professor of Management, Professor of Statistics
BS (1966) University of Pennsylvania; PhD (1968) University of Texas–Austin

Willis, Christina M., 2009. Assistant Professor of Linguistics
BA (1996) University of Montana; PhD (2007) University of Texas–Austin

BFA (1994) University of Louisiana, Lafayette; MFA (2002) University of Houston

Wilson, Lon J., 1973. Professor of Chemistry
BA (1966) Iowa State University; PhD (1971) University of Washington–Seattle

Wilson, Rick K., 1983. Herbert S. Autrey Professor of Political Science, Professor of Statistics and of Psychology
BA (1975), MA (1977) Creighton University; PhD (1982) Indiana University

Windsor, Duane, 1977. Lynette S. Autrey Professor of Management
BA (1969) Rice University; AM (1973), PhD (1978) Harvard University

Winkler, Kathleen, 1992. Professor of Violin
BMus (1972) Indiana University; MMus (1974) University of Michigan

Winningham, Geoffrey L., 1969. Professor of Visual Arts, Honorary Associate of Wiess College
BA (1965) Rice University; MS (1968) Illinois Institute of Technology

Wise, J. D., 1995. Lecturer on Electrical and Computer Engineering

Wittenberg Jr, Gordon G., 1979. Professor of Architecture
BFA (1968) Trinity College, Connecticut; MArch (1972) Washington University

Wolf, Michael, 1988. Professor of Mathematics
BS (1981) Yale University; PhD (1986) Stanford University

Wolf, Cary E., 2003. Bruce and Elizabeth Dunlevie Professor of English

Wolffthal, Diane, 2008. David and Caroline Minter Professor in Humanities, Chair of Art History, Professor of Art History

Wong, Mark E. K., 2001. Adjunct Associate Professor of Bioengineering and Chemistry
BS (1974) Raffles Institution; BDS (1978) University of Singapore

Wong, Michael S., 2001. Associate Professor in Chemical and Biomolecular Engineering and in Chemistry

Wong, Stephen B., 2001. Lecturer on Computer Science

Wong, Stephen T. C., 2007. Adjunct Professor of Bioengineering
BEng. (1983) University of Western Australia; MSc (1989), PhD (1991) Lehigh University

Wood, Philip R., 1990. Associate Professor of French

Wood, Susan, 1981. Gladys Louise Fox Professor in English
BA (1968) East Texas State University; MA (1970) University of Texas–Arlington

Woods, Gary L., 2008. Professor in the Practice in Computer Technology and Electrical and Computer Engineering

Wooten, Kevin C., 1994. Adjunct Associate Professor of Psychology
BA (1976), MA (1978) University of Houston; PhD (1991) Tulane University
Worth, David S., 2002. Lecturer of Humanities, Director of Forensics

Wright, Anthony A., 1989. Adjunct Professor of Psychology

Wu, Samuel Miao-Sin, 2009. Adjunct Professor of Bioengineering
AB (1973) University of California—Berkeley; PhD (1979) Harvard University

Wysocki, Gerald, 2006. Adjunct Assistant Professor in Electrical and Computer Engineering
MS (1999) Wroclaw University of Technology, Wroclaw, Poland; PhD (2005) Johannes Kepler University, Linz, Austria

Xing, Yuhang, 2003. Associate Professor of Management

Xiong, Siyang, 2009. Assistant Professor of Economics
BA (1973) University of California–Berkeley; PhD (1979) Harvard University

Xu, Qianfan, 2008. Assistant Professor in Electrical and Computer Engineering

Young, David T., 2007. Adjunct Professor in Physics and Astronomy
BS (1964) University of Louisiana; MS (1967), PhD (1970) Rice University

Young, James F., 1990. Professor of Electrical and Computer Engineering
BS (1965), MS (1966) Massachusetts Institute of Technology; PhD (1970) Stanford University

Zhang, Yin, 1996. Professor of Computational and Applied Mathematics
BS (1955), MS (1957) University of Colorado; MBA (1960), PhD (1962) University of Michigan; Dr. Econ. (Hon.) (1990) Turku School of Economics and Business Administration, Finland

Zhong, Weiwei, 2008. Assistant Professor of Biochemistry and Cell Biology
BS (1997) University of Science and Technology of China; MS (2003), PhD (2002) University of Georgia
Zhou, Jing, 2003. Houston Endowment Professor of Organizational Behavior  

Zimmerman, Stuart O., 1971. Adjunct Professor of Statistics  
BA (1954), PhD (1964) University of Chicago

Zodrow, George, 1979. Professor of Economics  
BA, MME (1973) Rice University; MA (1977), PhD (1980) Princeton University

Zubarev, Eugene, 2005. Associate Professor in Chemistry  
MS (1993) Moscow State University; PhD (1996) Russian Academy of Sciences

Zufall, Rebecca, 2008. Adjunct Assistant Professor of Ecology and Evolutionary Biology  

Zygourakis, Kyriacos, 1980. A. J. Hartsook Professor in Chemical and Biomolecular Engineering, Professor in Bioengineering,  
Chair of the Department of Chemical and Biomolecular Engineering  
DipChEng (1975) National Technical University of Athens; PhD (1981) University of Minnesota